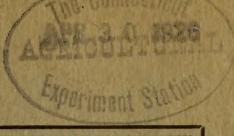


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**SHIPPING CATTLE  
TO BRITAIN**

Experiments in the Shipment of Live  
Cattle and Chilled Beef to England

CONDUCTED BY  
**THE ANIMAL HUSBANDRY DIVISION**  
**DOMINION EXPERIMENTAL FARMS**

**DOMINION OF CANADA**  
**DEPARTMENT OF AGRICULTURE**  
**BULLETIN No. 62—NEW SERIES**

THE EXPERIMENTAL FARMS BRANCH

E. S. ARCHIBALD, B.A., B.S.A., DIRECTOR

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# SHIPPING CATTLE TO BRITAIN

## Experiments in the Shipping of Live Cattle and Chilled Beef to England

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# SHIPPING CATTLE TO BRITAIN

## Experiments in the Shipping of Live Cattle and Chilled Beef to England

CONDUCTED BY

THE ANIMAL HUSBANDRY DIVISION

DOMINION EXPERIMENTAL FARMS

### INTRODUCTION

Canadian live stock men are already thoroughly familiar with the settlement in 1923 of that much discussed question "the removal of the British Embargo against Canadian cattle." This embargo was in force from 1892 to April 1st, 1923, and was instituted as a protection for British cattle against *cattle-plague*, *pleuro-pneumonia*, and *foot-and-mouth disease*, affections which, to all intents and purposes, were practically unknown in Canada. Cattle for immediate slaughter only, and that at the port of landing, were accepted. Much of the stock shipped from Canada under these regulations was not prime beef, particularly as it is known in Britain, consequently Canadian beef did not acquire the very good reputation it would have obtained had a finishing period on Old Country grass or in Old Country feed lots been possible.

With the change of the old order and the removal of the embargo in April, 1923, a great outlet was provided for Canadian beef cattle. At that time many opinions were put forward by interested parties in both Canada and Great Britain as to how these cattle should be shipped. Should Canada, after all, ship her cattle unfinished (stores)? Seeing that the cost of ocean transportation was the same for a light as for a heavy steer, would it not be more profitable to ship heavier steers finished—if possible? And why not chilled beef, reducing as it should much of the cost of transportation, concentrating the finished product, making use of Canadian raw material, labour, etc.? These and other questions and many angles thereof were constantly coming up for discussion, all bearing as they did on the title of this publication "Shipping Cattle to Great Britain."

Particular mention might be made of the discussion that centred around the advisability of shipping Canadian cattle as chilled beef. Trial shipments made by large private commercial interests had almost without exception proven anything but profitable ventures. However, there were and are still many who argued in favour of exporting Canadian cattle as chilled beef.

It was in order to obtain authentic information and data from carefully planned and conducted trial shipments that the Dominion Department of Agriculture, through the Experimental Farms Branch, inaugurated experimental shipments early in 1923, which shipments have been continued semi-annually since.

The material in this bulletin is therefore the result of six experimental shipments of beef cattle to Great Britain by the Dominion Experimental Farms.

It includes the results of a shipment from Montreal in May, 1923, the results of which have been published as Pamphlet 39 and republished herein; a shipment from Montreal in October, 1923; a Maritime shipment in April, 1924; a shipment from Montreal in May, 1924; a shipment from Montreal in October, 1924; and a shipment from Halifax in April, 1925.

Each shipment throws more light on the problem of *How and When should Canada export chilled beef, store cattle, short-keep cattle and fat cattle to Great Britain and to what ports.*

Immediately following is a summary of the information obtained from the various shipments which will prove interesting to the reader who has not time to digest thoroughly the mass of information contained in the detailed reports of the various shipments, though the latter will make interesting and profitable reading for anyone who can spare the necessary time.

## SUMMARY

### CHILLED BEEF TRADE

No further experiments in the shipping of chilled beef have been conducted since the first trial in the spring of 1923, the losses sustained at that time not being conducive to a continuation of the shipments, even on an experimental basis. There has been some agitation recently to renew experimental shipments of chilled beef, but the concensus of opinion of officials of the Department of Agriculture is that the chances of success in this trade are no better now than in 1923 and that Canada is better advised to ship her cattle to Great Britain as live stores, which business she has a practical monopoly of, outside of Irish shipments, at the present time. (For full details see *Shipment of May, 1923.*)

### LIVE CATTLE TRADE

**AGE OF ANIMALS.**—Cattle ranging from one and a half to three years old may profitably be shipped to the British market, provided they are shipped at the proper time and in the proper condition, *but* the preference of the British feeder is for the younger steers provided they are of good quality. Steers showing age do not find ready sale as stores, and are usually sold for immediate slaughter, consequently such animals should be well forward at the time of shipment if the greatest profit is to be realized.

**WEIGHT OF ANIMALS.**—Profitable returns have been received on cattle ranging in weight from 900 pounds to 1,350 pounds, but the steer which best meets the demand and which is most likely to prove profitable to the Canadian shipper is one which weighs between 1,100 and 1,200 pounds. A lighter steer, i.e., between 1,000 and 1,100 pounds, has to be of extra good quality to overcome the handicap he is under through having to carry the same ocean freight rate as the heavier steer. Aberdeen Angus work in most economically in this and the following class. Steers under 1,000 pounds are carried at a reduction of \$2 per head on ocean freight rate so that if the animals in this class are of extra good type and quality they may be expected to return a fair profit. Steers over 1,350 pounds have usually passed the growing stage, consequently make their subsequent gains by laying on fat only, and are therefore not looked on so favourably as stores as the lightweight steers.

**DEGREE OF FINISH OF ANIMALS.**—The foregoing shipments go to show that the younger, lighter steers must be of good beef type and quality, but need not be so well finished as the older, heavier cattle, as their size practically precludes

the possibility of their being sold for immediate slaughter, no matter what the condition of the market. The overseas market will absorb this class of cattle particularly well during the months of February and March, as they can then be put out on grass and finished by stall-feeding for the Christmas trade. The older, heavier steers must be in better flesh, but not fat, as they will usually go as short-keep stores. Select store types in this class need not be as highly finished as the somewhat rougher types, for the former invariably bring top prices as stores, while the latter are often sold for immediate slaughter, consequently the higher the degree of finish, the better the chances of a profitable return. Extremely heavy cattle or cattle showing undue age or roughness should be extra well finished, as they invariably are sold for immediate slaughter.

**TYPE OF ANIMALS.**—Running all through these reports is ample evidence that beef type is an absolute necessity if the highest returns are to be had. The British feeder desires and is ever willing to pay a premium for the short-legged, deep-bodied, blocky animal, and more of that type Canadians must endeavour to ship him. A much larger percentage of our steers shipped as stores would find their way to the British pastures and feed lots if more of the right kind were shipped. It is upon the improvement of type more than any other single factor that we must depend to consolidate our foothold on the store cattle trade in Great Britain.

**BREED OF ANIMALS.**—As regards breed of cattle to be shipped, any of the three major beef breeds, i.e., Aberdeen-Angus, Hereford and Shorthorn, or good grades or crosses of these are acceptable, provided the ideal beef type is strictly adhered to. In connection with the Herefords, there is one quite pronounced stipulation and that is that Herefords intended as stores should be shipped in the spring for finishing off early grass as they are exceptionally good grazing cattle. The British feeder does not like the Hereford for stall-feeding purposes, as it does not take kindly to confinement, is restless, and therefore does not do as well as steers of other breeds. If Herefords are shipped in the late summer or fall seasons, they should be well forward in flesh, as they will almost invariably sell to best advantage for immediate slaughter at this season of the year, consequently the more flesh they carry the better.

**UNIFORMITY OF ANIMALS.**—One point on which the British buyer has declared himself in these reports in no uncertain terms is that he is willing to pay a premium for uniformity in the lots that he buys. A shipment grouped for sale into lots according to such factors as age, weight, colour, type, presence but preferably absence of horns, etc., will make a decidedly better return than would the same shipment if the cattle were simply sold as a mixed lot.

**MARKETS.**—It may be fairly safely said that the three most important markets for Canadian store cattle are Glasgow, Liverpool (Birkenhead) and Manchester. At Glasgow there is excellent accommodation for some 4,000 head and the cattle are well looked after by experienced men. This market is the centre of supply for nearly all of northern Scotland. All sales are by public auction, the animals being sold over a scale at so much per head, that is, while the buyer knows the weight of the animal, nevertheless he buys at so much a piece. A steer weighing from 1,000 to 1,100 pounds of Shorthorn or Aberdeen Angus breeding is preferred.

At Liverpool (Birkenhead) there are two lairages, Woodside, handling Canadian store cattle and Irish cattle of all kinds, and Wellsey, handling Canadian or foreign fat cattle for immediate slaughter. The two lairages can handle about 5,000 head of cattle. Here also there are good facilities and the cattle are well handled. A large number of the stores shipped out are grazed locally. This market takes a steer weighing from 1,050 to 1,200 pounds, Shorthorn or Angus breeding preferred. Here again Herefords are not very popular, except

in the spring months for summer grazing or for immediate slaughter. Birkenhead is a good market for a rather rough but fairly well finished steer, as there is a certain demand for what is known as a carcass bullock for the trade in Liverpool. A considerable quantity of the meat killed at Birkenhead is shipped to London.

At Manchester the facilities and requirements are very similar to those at Birkenhead, except that there is not quite as good a market for the big, rough class of steer. Most of the cattle shipped to Manchester are handled locally.

**POSSIBILITIES IN CO-OPERATIVE SHIPMENTS.**—On most of the larger Canadian markets, exporters have buyers purchasing cattle for export and shipping same. This provides a regular export outlet for the breeder and feeder who has not a sufficient number to make a shipment of his own.

There is absolutely no reason, however, why a group of breeders or feeders or a single breeder and feeder operating on a large scale should not make their own shipments. Arrangements can be made through shippers' agents in Montreal to secure space on board ship and take complete charge of the shipments on arrival in Montreal, even to the supplying of foremen and cattlemen to go with the cattle. It is, of course, advisable, though not absolutely necessary, for one person to follow the shipment until loaded on boat to see that everything is in order and particularly to attend to the marking of the lots according to their respective owners. If the lots owned by any individual are less than car load lots, then marking would have to take place at home, but if even car-loads are shipped, the marking can be done more satisfactorily at the stock-yards. Usually, the initial of the surname of the shipper is used, and if he has more than one lot, a lot number is added. A reference to the charges listed in the various shipments herein reported will give the shipper an idea of the legitimate charges on such a shipment.

**POPULARITY OF CANADIAN CATTLE.**—Canadian store cattle are rapidly increasing in popularity. From the lifting of the embargo in April, 1923, to the end of that year, 57,672 cattle were shipped to Great Britain. In 1924, 79,435 head were shipped, while in 1925, 110,868 head have been shipped, which is 31,433 head more than was shipped in 1924, so that the trade is steadily increasing.

Unfortunately, not all of the animals shipped were put out as stores. In 1923, only 2,163 animals were removed alive from the Birkenhead market. In 1924, this number had increased to 9,877, and it is safe to suppose that it will be greatly increased again in 1925, for many farmers who were formerly using Irish stores now make a practice of using Canadian stores entirely. For one thing, it is stated by Birkenhead firms, that Canadian cattle are healthier than Irish cattle. The former often show no more than one in a thousand diseased, while the latter frequently run over one per cent.

Then, again, it is stated by reliable British authorities that Canadian cattle will make as much gains in six weeks as Irish cattle will in ten weeks. Canadian cattle start feeding immediately they are put in the boxes, while Irish cattle, to use a local expression "lose their insides," and take about four weeks to get back to a position where they can make full use of their feed.

It is also stated that one reason that the Irish cattle are beaten so much, with the consequence that the carcasses are often badly bruised, is that the cattle are "dead," i.e., lack life and vigour, consequently have to be beaten along. On the other hand, Canadian cattle are full of life and vigour and are ready to go right ahead and put on gains as soon as put in the pasture or feed lot.

In the opinion of the writer, therefore, it is quite clear that we have only to consolidate our gains by improving the quality and increasing the supply to ensure a steady and profitable outlet for the product of our great cattle-raising industry.

## EXPERIMENTAL SHIPMENT OF CHILLED BEEF AND STORE CATTLE IN MAY, 1923

The cattle collected for the experiment were those used in winter-feeding experiments on the Central Experimental Farm, Ottawa, Ont., and the Lethbridge, Alberta; Rosthern and Indian Head, Saskatchewan; Brandon, Manitoba; Lennoxville, Quebec, and Kentville, Nova Scotia, Experimental Farms and Stations. They were, generally speaking, representative of the class of cattle available for the overseas trade in the districts from which they came.

In all, 186 head were collected in Montreal during the latter part of May, 1923. As was to be expected in gathering together such a large number of cattle from so many different districts, practically all classes of cattle were represented. From an experimental point of view, this was an ideal arrangement, in that it made possible more comparisons than would have been possible if the cattle had been all of the same grade. Table I shows the source of the steers and how they were classified at Montreal.

TABLE I.—SOURCE OF STEERS AND CLASSIFICATION AT MONTREAL

Dominion Experimental Station	Lethbridge, Alta.	Rosthern, Sask.	Indian Head, Sask.	Brandon, Man.	Ottawa, Ont.	Lennoxville, Que.	Kentville, N.S.
50 fat cattle slaughtered at Montreal and shipped as chilled beef.....	18	12	0	2	4	6	2
50 fat cattle shipped alive....	18	11	0	6	5	8	2
80 store cattle shipped alive....	0	27	14	4	12	7	16
6 rough cattle slaughtered and sold at Montreal.....	0	2	1	0	2	1	0
186 cattle.....	36	52	21	12	23	22	20

The cattle from the western Experimental Farms and Stations were shipped to the Winnipeg yards and were there graded, the undesirable animals disposed of and the remainder reshipped to Montreal. The Ottawa, Ont., Lennoxville, Que., and Kentville, N.S., steers were shipped so as to land in Montreal about the same time as the western steers. After resting up, they were graded into lots and fed a liberal ration of hay and grain and given all the water they would drink.

From table I it will be noted that there were four main classes into which the cattle were divided at Montreal. On arrival in England, two of these classes were again subdivided, making in all six lots as follows:—

*Lot 1.*—Fifty fat cattle killed at Montreal and shipped to England as chilled beef and sold on the Smithfield market.

*Lot 2.*—Twenty-five fat cattle similar to those in lot 1 shipped alive, killed immediately on arrival in England and sold on the Smithfield market as fresh beef.

*Lot 3.*—Twenty-five fat cattle similar to those in lots 1 and 2 shipped alive and sold as stores on the Birkenhead and Norwich markets.

*Lot 4.*—Seventy-five store cattle somewhat lighter and thinner than those in lot 3 shipped alive and sold as stores on the Birkenhead and Norwich markets.

*Lot 5.*—Six rough steers, considered unsuitable for overseas shipment, killed and sold on the Montreal market.

*Lot 6.*—Five rough steers, somewhat similar to those in lot 5 and that were not likely to sell well as stores, killed and sold as fresh meat on the Birkenhead market.

Having these six lots made it possible to make the following comparisons:—

*First.*—A comparison of returns from chilled beef vs. same class of cattle shipped alive, slaughtered and sold as fresh meat.

*Second.*—A comparison of the returns on the same class of cattle as above, shipped and slaughtered immediately vs. sold as stores.

*Third.*—A comparison of the returns from fairly fat or short keep stores vs. medium weight, thinner or long keep stores.

*Fourth.*—A comparison of returns from rough steers killed and sold in Montreal vs. similar class of cattle killed and sold in Birkenhead.

Detailed records were kept of all transactions relating to the cost of transportation, costs of slaughtering, cost of selling, and returns from these lots, making possible the compilation of some very interesting and valuable tables which are embodied in the main part of this report. However, for the benefit of the reader who has not the time or inclination thoroughly to digest these tables, a summary of results is given here.

#### SUMMARY OF RESULTS

1. Steers were shipped from Lethbridge, Alta., Indian Head, Sask., Winnipeg, Man., Ottawa, Ont., Lennoxville, Que., and Kentville, N.S., to Montreal, at the following freight costs per cwt., respectively: \$1.40, \$1.37, \$0.97, \$0.20, \$0.20, \$0.71.

2. The shrinkage in transit off car weights, Montreal, varied from 12 per cent in the case of the Alberta and Nova Scotia shipments to 8.6 per cent in the case of the Lennoxville, Que., shipment. (See table III.)

3. The fifty steers, average weight 1,252 pounds, shipped as chilled meat, dressed 60.4 per cent and realized a gross price of \$3.93 per cwt. on live weight at Montreal, and, after taking into account the average cost of shipping to Montreal, the net price realized was \$2.96 per cwt. (See tables IV, V and VI.)

4. The average cost of landing store cattle in England from the various Experimental Farms and Stations from which the shipment was collected was \$42.37 per head, or \$3.58 per cwt., based on Montreal live weights. (See table VII.)

5. The twenty-five fat steers, average weight 1,209 pounds, slaughtered immediately on their arrival in England, dressed 57.84 per cent and realized a gross price of \$7.53 per cwt. on live weight at Montreal, and, after taking into account the average cost of shipping to Montreal, the net price realized was \$6.73 per cwt. (See table VIII.)

6. The twenty-five fat steers, average weight 1,296 pounds, sold as stores, realized a gross price of \$9.33 per cwt. on live weight at Montreal, and, after taking into account the average cost of shipping to Montreal, the net price realized was \$8.58 per cwt. (See table X.)

7. The seventy-five cattle, average weight 1,142 pounds, sold as stores, realized a gross price of \$8.03 per cwt. on live weight at Montreal, and, after taking into account the average cost of shipping to Montreal, realized a net price of \$7.18 per cwt. (See table XI.)

8. The six rough steers averaging 1,095 pounds, killed and sold on the Montreal market dressed 58 per cent and realized a gross price of \$6.30 per cwt. on live weight at Montreal. After taking into account the average cost of shipping to Montreal, a net price of \$5.65 per cwt. was realized. (See table XII.)

9. The five rough stores averaging 1,142 pounds, killed and sold at Birkenhead dressed 58 per cent and realized a gross price of \$7.93 per cwt. on live weight at Montreal. After taking into account the average cost of shipping to Montreal, a net price of \$7.08 per cwt. was realized. (See table XIV.)

10. The receipts of sink (slaughter-house by-products) of fifty-six cattle killed at Montreal realized a return of 80 cents per cwt. on the live weight of the steers at Montreal, or \$9.88 per steer. The receipts of sink of thirty store cattle killed at Birkenhead realized a return of \$1.46 per cwt. based on the live weight at Montreal, or \$17.49 per steer. (See tables XVI and XVII.)

#### COST OF SHIPPING TO MONTREAL

It will be of interest to the reader to know the cost of shipping cattle to Montreal from the various points from which this shipment originated. This information is given in table II following.

TABLE II.—STATEMENT OF EXPENSES OF SHIPPING ONE HUNDRED AND EIGHTY SIX HEAD OF CATTLE FROM EXPERIMENTAL FARMS AND STATIONS MENTIONED TO MONTREAL

—	Lethbridge	Indian Head	Winnipeg	Ottawa	Lennoxville	Kentville	Total
Number of steers.....	36	21	64	23	22	20	186
Freight and other rail charges to Montreal.....	\$633 78	\$296 31	\$671 91	\$46 40	\$52 67	\$152 24	\$1,853 31
Attendant charges at 1—50c.; 2—40c.; 3—30c.; 4—20c.....	1	2	3			4	
Cost per head at Montreal....	18 00	8 40	19 20			4 00	49 60
Cost per 100 lbs. at Montreal.	18 10	14 51	10 80	2.015	2.394	7.815	10 23
Feed charges at Montreal (due to holding unusually long for purposes of this experiment) <i>i.e.</i> , from date of unloading until all steers were collected and graded, the following 3 days' feed being charged in Table VII	1 40	1 37	0 97	0 20	0 20	0 71	0 80
	174 60	101 85	310 40	33 29	31 67	116 61	768 42

From this table it will be seen that an attendant charge was levied against those steers that were shipped over one hundred miles, in proportion to the distance shipped. The Winnipeg shipment originated at Rosthern and Brandon but was listed as coming from Winnipeg on account of the latter being a large cattle-shipping centre. The Lethbridge shipping costs would approximate quite closely Calgary costs, at which latter place there is also a large cattle market. The Toronto market shipping cost is fairly well represented in that from Ottawa, there being a difference of only 10 cents per cwt. Cattle billed through for export would take a somewhat lower rate and reduce these costs slightly.

It should be stated that the item "Feed charges at Montreal" in table II is not included in the subsequent costs of shipping 130 store cattle to England. Ordinarily, cattle would not be held in Montreal previous to shipment more than three days. Some of these cattle were held more than three days on account of the experimental nature of the shipment, but were charged with only three days' feeding, as will be seen by referring to table VII.

#### SHRINKAGE

An important item in shipping cattle is the amount of shrinkage in transit. Table III following gives the amount of shrinkage from the various points.

TABLE III.—SHRINKAGE IN RAIL SHIPPING  
LOSS PER HEAD FROM EXPERIMENTAL FARM TO MONTREAL

Number of head	From	To	Shrinkage per steer	Per cent
36	Lethbridge.....	Winnipeg.....	lbs.	
	Winnipeg.....	Montreal.....	116	8.0
			65	4.0
	Total Lethbridge.....	Montreal.....	181	12.0
52	Rosthern.....	Winnipeg.....	77	6.2
21	Indian Head.....	Winnipeg.....	113	9.1
12	Brandon.....	Winnipeg.....	51	3.5
85	Winnipeg (Rosthern, Indian Head & Brandon).....	Montreal.....	68	11.2
23	Ottawa.....	Montreal.....	135	11.6
22	Lennoxville.....	Montreal.....	128	8.6
20	Kentville.....	Montreal.....	159	12.5

It will be noted that the Lethbridge cattle lost 116 pounds per head or 8 per cent between Lethbridge and Winnipeg and 65 pounds per head or 4 per cent between Winnipeg and Montreal, or a total of 12 per cent. The above figures show that the greatest shrink occurs during the first day or two of travel. If properly handled, the cattle are then getting used to the journey, commence feeding and shrink much less. This would account for the fact that the Ottawa and Lennoxville lots show a high shrink compared to the western steers which travelled a much greater distance.

During the period between unloading off cars at Montreal and reloading to wharf, the cattle rested and regained in weight. In the case of the Lethbridge lot of heavy steers this recovery in weight amounted to 130 pounds per steer. In other words, the Alberta cattle when reloaded to the wharf showed a shrink of only 3.46 per cent from their original feed lot weights.

#### COST OF SHIPPING CHILLED BEEF TO ENGLAND

At this stage of the experiment, one lot of fifty steers was selected out for shipment to England as chilled beef. These cattle were slaughtered at the Canadian Pacific Railway Abattoir, East End Stockyard, Montreal. They were a uniform lot, averaging in weight 1,252 pounds and could all be classed as fat. They dressed 60.4 per cent. The dressed meat did not show the slightest evidence of bruising, which was rather contrary to expectations, considering the long railroad journey some of the steers experienced.

In order to have the meat land in England in prime condition, every care possible was taken with the killing. Each carcass was carefully washed and well dried before it went in the cooler. Before being shipped, each side of beef was covered with a stockinette (cheesecloth) and then wrapped in burlap. The meat was then cooled down to 32 to 33 degrees F. and was put alongside the steamer in iced cars at this temperature, thus preventing sweating on transfer to boat. This procedure is absolutely necessary, for the only way chilled beef can be properly delivered at its destination in England is to keep it at a uniform temperature from the time it leaves the refrigerator at the abattoir until it is delivered at its destination. Table IV gives the detail of the expenses of killing and shipping this lot of chilled beef carcasses to England.

TABLE IV.—STATEMENT OF EXPENSES SHIPPING FIFTY CARCASSES CHILLED BEEF FROM EXPERIMENTAL FARM MENTIONED TO GREAT BRITAIN

Farm	Lethbridge	Indian Head	Winnipeg	Ottawa	Lennoxville	Kentville	Grand Totals
Number of steers.....	18	6	14	4	6	2	50
Total cost shipping to Montreal.....	\$325 89	\$87 06	\$151 18	\$ 8 06	\$ 14 37	\$ 15 63	\$602 19
Slaughtering charges, \$2 each	36 00	12 00	28 00	8 00	12 00	4 00	100 00
Materials supplied for wrapping dressed beef for export, (stockinette, burlap, etc.)							
Extra labour wrapping and loading 200 quarters.....	38 19	12 71	29 80	8 49	12 71	4 24	106 14
Chilling beef (icing cars).....	22 84	7 62	17 77	5 07	7 62	2 54	63 46
Loading charges (Harbour swg., Port Warden, handling, wharfage).....	38 16	12 72	29 66	8 48	12 72	4 24	105 98
Ocean freight.....	16 05	5 35	12 49	3 57	5 35	1 78	44 59
Marine insurance.....	182 87	60 95	142 23	40 63	60 95	20 31	507 94
Total to port of debarkation.	\$687 00	\$207 41	\$432 13	\$ 88 30	\$134 72	\$ 55 74	\$1,605 30
Average per carcass.....	38.166	34.568	30.866	22.075	22.453	27.87	32.106

It will be noticed that there were heavy charges against the chilled beef in preparing it for shipment in Montreal and transporting it overseas, which in turn had its effect on the returns on the shipment as given in table V.

#### RETURNS FROM CHILLED BEEF SHIPMENT

On landing at Liverpool, the chilled beef was transferred to railroad carriages and consigned to Parker & Fraser, meat dealers, Smithfield Market, London. It met with much favour as to quality but struck the market at a time when there was heavy pitching (unloading or dumping in our terms) of Argentine chilled beef, the prices of the latter ruling very low. Also the weather was warm with a bad trade in the retail shops.

Furthermore, in order to meet the requirements of the Smithfield market and to compare in appearance with the Argentine chilled beef, the dressing of the beef at Montreal could have been much improved. The aitch-bones should have been knifed through instead of being sawed through. The skirts should have been removed in order to avoid the danger of the meat spoiling in warm weather. Also, the pith of the backbone should be removed as this spoils very quickly. Another important factor which regulated the price received was the fact that the hind quarters were quartered at  $7\frac{1}{2}$  bones when they should have been quartered at  $9\frac{1}{2}$ , that is, at the time of quartering two more ribs should have been left on the hind quarter to increase the weight of this, the more valuable meat.

Table V gives the selling charges and returns on the chilled meat when sold on the Smithfield market.

TABLE V.—STATEMENT OF EXPENSES AND RECEIPTS ON FIFTY STEERS KILLED AND SHIPPED AS CHILLED BEEF FROM MONTREAL TO LONDON

	st.	lbs.	£	s.	d.		£	s.	d.
To 50 hinds.....	1,117	7½	234	7	4	By Dock and town dues on 200			
" 50 hinds.....	1,138	4	240	2	3	quarters meat.....	3	1	3
" 50 fore.....	1,134	6	111	19	7	" Railway charges on 16 tons,			
" 50 fore.....	1,205	½	124	8	11	15 cwt. 3 quarters at 36/6s.	30	12	9
						" Cartage, toll and pitching			
						at 12s.....	9	16	11
						" Commission, 2d. per st. ....	38	6	0
						" Balance.....	629	1	2
	<u>4,594</u>	<u>2</u>	<u>£710</u>	<u>18</u>	<u>1</u>		<u>£ 710</u>	<u>18</u>	<u>1</u>

Gross balance from sale in London, £629 1s. 2d. at \$4.72..... \$ 2,969 15  
 Less transportation charges to port of debarkation (See table III)..... 1,605 30

Balance..... \$ 1,363 85

*Montreal O'gal Returns—*

To 19 hides.....	1,368	lbs. at 10½c. per lb.....	\$ 143 64
" 31 branded hides.....	2,438	" 8½ " "	207 23
" 50 hearts.....	200	" 3 " "	6 00
" 50 livers.....	262	" 3 " "	7 86
" 50 ox tails.....	80	" 5 " "	4 00
" 50 beef heads.....		at 90c. each.....	45 00
" 2,600 lbs. fat.....		at 3c. per lb.....	78 00

Net balance..... \$ 1,855 58

Live weight at Montreal.....	62,600 lbs.
Dead weight at Montreal.....	37,808 lbs.
Dressing percentage.....	60.4%
Dead weight at London.....	36,770 lbs.
Shrinkage.....	2.7%

*Returns—*

Fifty steers realized a gross price of \$3.93 per cwt. on live weight at Montreal, and, after taking into account expenses of shipping to Montreal, a net price of \$2.96 per cwt.

It will be noted that the chilled meat realized a gross price of \$3.93 per cwt. on the live weight at Montreal. After taking into account the expenses of shipping to Montreal, it realized a net price of only \$2.96 per cwt. The price the meat sold for in London was 4s. 2½d. per stone or 12½ cents per pound for hind-quarters and 2s. 0¼d. per stone or 6 cents per pound for fore-quarters.

This comparatively low price is to be accounted for in part by the condition of the meat as regards dressing as well as by the condition of the market at the time it was sold. In this respect, conditions were not nearly so favourable as was the case with the live cattle, consequently these factors must be kept in mind when comparing the returns from the chilled beef and the live steer sales.

In order to avoid the extra rail charges from Liverpool to London, chilled meat would be better shipped direct to London or else be landed at a port adjacent to London, such as Southampton. During the reshipment from Liverpool to London, the meat became somewhat soiled. This, no doubt, could have been prevented in a measure by using a somewhat heavier material in the stock-inette with which the meat was covered before shipping.

**DRESSED WEIGHTS**

It will be interesting to the reader to know the individual dressed weights and average dressing percentage of the carcasses in the chilled beef shipment. This information is given in table VI.

TABLE VI.—INDIVIDUAL DRESSED WEIGHT OF FIFTY CARCASSES SLAUGHTERED AT MONTREAL

No.	Weight	Farm or Station	No.	Weight	Farm or station
1	855	Lethbridge.....	26	770	Lennoxville.
2	684	".....	27	813	"
3	905	".....	28	672	"
4	730	".....	29	740	"
5	825	".....	30	754	"
6	805	".....	31	564	Brandon.
7	872	".....	32	645	Rosthern.
8	750	".....	33	644	Indian Head.
9	719	".....	34	594	"
10	735	".....	35	772	Rosthern.
11	755	".....	36	725	Indian Head.
12	818	".....	37	593	Ottawa.
13	815	".....	38	817	Kentville.
14	890	".....	39	755	Rosthern.
15	828	".....	40	627	"
16	886	".....	41	881	"
17	831	".....	42	745	Ottawa.
18	821	".....	43	816	Rosthern.
19	655	Indian Head.....	44	800	"
20	750	Brandon.....	45	888	"
21	693	Kentville.....	46	875	"
22	677	Rosthern.....	47	665	Indian Head.
23	616	".....	48	967	Rosthern.
24	761	Lennoxville.....	49	702	Ottawa.
25	675	Indian Head.....	50	607	"

Total live weight..... 62,600 lbs.  
 Total dead weight..... 37,808 lbs.  
 Dressing percentage..... 60.4 p.c.

It will be noted that the individual dressed weight varied from 564 pounds to 967 pounds, a maximum difference of 403 pounds. Had the carcasses been graded according to size, the shipment would have met with greater favour on the Smithfield market and sold to better advantage.

#### SUMMARY OF CHILLED BEEF SHIPMENT

To summarize this phase of the experiment, it may be said that the chilled beef shipment gave a decidedly poor return due to lack of uniformity in weight of carcasses; lack of knowledge of requirements of the Smithfield market as regards manner of slaughtering, trimming and quartering; and being sold on a very low market due to the dumping of Argentine chilled beef. Even had these agencies not been at work, the expense of shipping chilled beef coupled with the low returns for it as compared with the return for the live animals, makes the profitable shipment of chilled beef practically impossible.

#### COST OF SHIPPING LIVE CATTLE TO ENGLAND

The next step in the experiment was the shipment of the live cattle to England. In all, 130 head were shipped and the average cost is given in table VII.

TABLE VII.—STATEMENT OF EXPENSES SHIPPING ONE HUNDRED AND THIRTY STORE CATTLE TO ENGLAND

	Lethbridge	Indian Head	Winnipeg	Ottawa	Lennoxville	Kentville	Grand Totals
Number of steers.....	18	14	48	17	15	18	130
Total charges from Farm or station to Montreal.....	\$ 325 89	\$ 203 14	\$ 518 35	\$ 34 32	\$ 35 91	\$ 140 61	\$1,258 22
Feed charges, Montreal, \$1.90 each.....	34 15	26 53	91 10	32 24	28 43	34 15	246 60
Reloading to wharf.....	1 00	1 00	2 00	1 00	1 00	1 00	7 00
Tags, 5c. each and tagging, 5c. each.....	1 80	1 40	4 80	1 70	1 50	1 80	13 00
Marking, 5c. each.....	0 90	0 70	2 40	0 85	0 75	0 90	6 50
Ropes and pails.....	7 38	5 74	19 68	6 97	6 15	7 38	53 30
Handling, 50c. each.....	9 00	7 00	24 00	8 50	7 50	9 00	65 00
Wharfage, 15c. each.....	2 70	2 10	7 20	2 55	2 25	2 70	19 50
Insurance marine (\$150 each at $\frac{5}{8}\%$ ).....	16 88	13 12	45 00	15 94	14 06	16 88	121 88
Ocean feed.....	80 75	62 80	215 34	76 26	67 30	80 75	583 20
Ocean freight (\$22.50 per head).....	405 00	315 00	1,080 00	382 50	337 50	405 00	2,925 00
Total to port of debarkation.....	\$ 885 45	\$ 638 53	\$2,009 87	\$ 562 83	\$ 502 35	\$ 700 17	\$5,299 20
Average per steer.....	49 19	45 61	41 87	33 11	33 49	38 89	40 76
<i>Landing Charges—</i>							
Lairage, 3s. each.....	12 75	9 91	33 98	12 03	10 62	12 75	92 04
Dues, 9 $\frac{1}{2}$ d. each.....	3 36	2 62	8 97	3 18	2 80	3 36	24 29
Droving, 2s. 6d. each.....	10 62	8 26	28 32	10 03	8 85	10 62	76 70
Veterinary inspection, 6d. each.....	2 12	1 65	5 67	2 01	1 77	2 12	15 34
Total to time of sale.....	\$ 914 30	\$ 660 97	\$2,086 81	\$ 590 08	\$ 526 39	\$ 729 02	\$5,507 57
Average per steer.....	50 79	47 21	43 48	34 71	35 09	40 50	42 37

It will be noted that the average cost from starting point to port of debarkation is \$40.76 per head. If landing charges in England are included, this charge is brought up to \$42.37 per head. Taking the Montreal live weights as a basis, this works out to an average of \$3.57 per 100 pounds live weight. Those shipped from Lethbridge, the most distant point, cost \$50.79 per head, while those shipped from Ottawa, the nearest point, cost \$34.71 per head, a difference of \$16.08 per head. The steers shipped in very good shape. Judging from the weights taken in lot 1, the only lot weighed upon landing, the shrinkage during ocean travel is very light, as this lot lost less than one-half of one per cent between weighing in Montreal and weighing in England, thirty-six hours after landing, during which time they did not have much time to fill up owing to being continually disturbed by prospective buyers and others. Attendance on the boat is an important item which will be discussed later.

#### RETURNS FROM LIVE CATTLE SHIPMENT

As previously stated, the live cattle shipment was split into four lots for sale in England. These lots will now be dealt with separately under their respective lot numbers.

#### *Lot II—Twenty-five Fat Steers Killed for Fresh Meat*

Some thirty-six hours after their arrival in England, twenty-five of the fat steers, averaging 1,209 pounds, were slaughtered at Birkenhead and shipped to Stimpson and Lloyd, meat dealers, Smithfield Market, London, England, for sale. These carcasses were said to be a good class of beef, generally suited for the London trade. Table VIII gives the expenses and returns on this group.

TABLE VIII.—STATEMENT OF EXPENSES AND RECEIPTS OF TWENTY-FIVE STEERS KILLED FOR FRESH MEAT TO BE COMPARED WITH FIFTY CHILLED BEEF CARCASSES SLAUGHTERED AT MONTREAL (SEE TABLE V)

	st.	lbs. per st.	£	s.	d.		£	s.	d.
To 3 sides.....	111	4 at 6s. 4 d.	35	6	2	By Lairage, 3s. each.....	3	15	0
" 3 sides.....	144	1 at 6s. 2 d.	44	8	9	" Dues, 9½ d. each.....	19	9½	
" 16 sides.....	664	6 at 6s.....	199	8	6	" Drovine, 2s. 6 d. each.....	3	2	6
" 27 sides.....	1,210	2 at 5s. 8d.	342	18	1	" Inspection, 6 d. ....	12	6	
" 1 H ½ & flank	20	6 at 7s. 4 d.	7	12	2	" Slaughterhouse charges.....	3	15	0
" 1 F ¼ .....	18	7 at 5s.....	4	14	4	" Dressing and carrying.....	6	17	6
" 25 hides (net).....		48	0	0	" Handling commission at 10s. each.....	12	10	0	
" 25 offal.....		31	17	6	" Refrigeration.....	2	10	0	
" 1,030 lbs. of fat at 3d.....		12	17	6	" Rail charges.....	19	5	2	
					" Selling commission, 3d. per st. ....	27	2	9	
					" Balance.....	646	12	9½	
			£727	3	0		£727	3	0
Gross balance, £646 12s. 9½d. at \$4.72.....						\$ 3,052 13			
Less transportation charges to port of debarkation.....						1,019 00			
Net balance.....						\$ 2,033 13			
Live weight at Montreal.....						30,220 lbs.			
Live weight at Birkenhead.....						50,075 "			
Shrinkage.....						.48 p.c.			
Dead weight at Birkenhead.....						17,395 lbs.			
Dressing percentage.....						57.84 p.c.			
Dead weight at London.....						17,362 lbs.			
Shrinkage.....						.18 p.c.			

*Returns*—

Twenty-five steers realized gross price of \$7.53 per cwt. on live weight at Montreal and, after taking into account the average cost of shipping to Montreal, a net price of \$6.73 per cwt.

It will be noted that these cattle realized a gross return of \$7.53 per cwt. on the live weight at Montreal, and, after taking into account the average cost of shipping to Montreal, the net price realized was \$6.73 per cwt. The large quantities of chilled and frozen meat in the trade, which adversely affected the returns on the chilled beef, affected the returns on this group in a similar way. The price realized was one penny (about two cents) per pound lower than that ruling the preceding week. This must be taken into consideration when comparing the returns made with those received from the live cattle shipments which met a fairly favourable market.

As previously stated, the steers in this lot, when graded in Montreal, were considered as fat prime butcher cattle. From the following comments made by the firm selling this meat on the London market, it will readily be seen that a higher conditioning is required in Great Britain than that looked for in Canada:—

"The beasts were not graded, being neither uniform in size or quality, the weights ranged from 900 pounds to 562 pounds per body; the large carcasses being well covered and right up; the smaller, while being more saleable on account of size, were hardly forward enough, and might, with advantage, have been kept a few more months. They showed signs of being affected by the ocean journey. The kidney knobs had commenced to decrease. This is sure evidence of wastage.

"A few days' rest at port of debarkation would be beneficial and the beef would then, when cut, more closely approximate the flesh of a home-bred animal.

"The article which is most appreciated in London, and for which there is invariably a steady and consistent demand, is a neatly finished steer averaging 10 to 11 cwt. live weight, and yielding from 640 to 700 pounds of dead meat."

In view of this, it is safe to assume that *well-finished cattle uniform* as to size, weight and finish will meet with a good demand for immediate slaughter, provided that they are shipped at a time when the market is not flooded with chilled and frozen meat.

In order to corroborate the remarks as to unevenness in weight of individual carcasses made by Stimpson and Lloyd, table IX is given.

TABLE IX.—INDIVIDUAL DRESSED WEIGHT OF TWENTY-FIVE CARCASSES SLAUGHTERED AT BIRKENHEAD

Number	Weight	Farm	Number	Weight	Farm
	lbs.			lbs.	
1	581	Ottawa.....	14	778	Lennoxville.
2	673	".....	15	636	".....
3	770	Rosthern.....	16	587	Ottawa.
4	569	Ottawa.....	17	724	Brandon.
5	638	".....	18	754	".....
6	679	Rosthern.....	19	838	Lennoxville.
7	603	".....	20	881	".....
8	581	Kentville.....	21	653	Kentville.
9	690	Lethbridge.....	22	740	Lennoxville.
10	562	Brandon.....	23	660	Rosthern.
11	902	Lethbridge.....	24	756	".....
12	776	".....	25	742	Lennoxville.
13	622	Brandon.....			

Total live weight.....	30,075 lbs.
Total dead "	17,395 "
Dressing percentage.....	57.84 p.c.

It will be seen that the quoted figures are substantially correct, the carcasses varying from 562 pounds to 902 pounds, a maximum difference of 340 pounds, which certainly is not desirable.

*Lot III—Twenty-five Fat Steers Sold as Stores*

Realizing that the condition of the market in England would decide whether medium fat steers would be sold for immediate slaughter or as stores, it was thought advisable to have some steers of this class sold in both ways to determine the relative returns. Accordingly twenty-five steers, averaging 1,296 pounds, were disposed of as stores. Table X gives the expenses and returns on this lot.

TABLE X.—STATEMENT OF EXPENSES AND RECEIPTS ON TWENTY-FIVE FAT STEERS SOLD ALIVE AT BIRKENHEAD TO BE COMPARED WITH THE FIFTY CHILLED BEEF CARCASSES FROM MONTREAL AND THE TWENTY-FIVE STEERS KILLED FOR FRESH MEAT AT BIRKENHEAD AND SOLD AT LONDON

To	£	s.	d.	By	£	s.	d.
14 at £35 each.....	490	0	0	By Lairage, 3s. each.....	3	15	0
" 3 at £38 each.....	114	0	0	" Dues, 9½d. each.....	19	9½	
" 1 at £31.....	31	0	0	" Drov ing, 2s. 6d. each.....	3	2	6
" 1 at £35, less £1 3s. 11d.....	.....	.....	.....	" Inspection, 6d. each.....	12	6	
" Keep at Norwich, 3s.....	.....	.....	.....	" Commission, 10s. each.....	12	10	0
" Due at Norwich, 3d.....	.....	.....	.....	" Straw.....	1	0	10
" Drov ing and attend., 2s. 6d.....	.....	.....	.....	" Loading at 1s.....	1	5	...
" Rail to Norwich, 18s. 2d.....	33	16	1	" Balance.....	806	6	11½
" 6 at £28 each, less £1 3s. 11d. ea..	160	60	6				
	£829	12	7		£829	12	7
	=====	=====	=====		=====	=====	=====

Gross balance, £806 6s. 11½d. at \$4.72.....	\$ 3,805 95
Less transportation charges to port of embarkation.....	1,019 00

Net balance.....	\$ 2,786 95
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Live weight at Montreal.....	32,480 lbs.
Live weight at Birkenhead.....	32,333 "
Shrinkage.....	45 p.c.

*Returns—*

Twenty-five steers realized a gross price of \$9.33 per cwt. on live weight at Montreal, and, after taking into account the average cost of shipping to Montreal, a net price of \$8.58 per cwt.

It will be noted that these cattle realized a gross return of \$9.33 per cwt. on the live weight at Montreal, and, after taking into account the average cost of shipping to Montreal, a net return of \$8.58 per cwt. At the time of shipment, export steers at Montreal were bringing \$7.50 per cwt. With the exception of seven head sold at Norwich, one of the large markets, by private treaty, all of the steers in this group were sold at the port of landing. They sold as short-keep stores at prices ranging from £28 to £38 per head.

#### *Lot IV—Seventy-five Store Cattle*

This lot of cattle was made up of steers somewhat lighter and not quite so well finished as those in lots II and III. They were, however, a good class of stores and sold fairly readily as such. Table XI gives the expenses and receipts from the sale of the group.

TABLE XI.—STATEMENT OF EXPENSES AND RECEIPTS ON SEVENTY-FIVE STORE CATTLE

	£	s.	d.		£	s.	d.
To 20 at £29 10s. 0d., less 1s. ....	589	0	0	By	Lairage at 3s. ....	11	5
“ 48 at £26, less 1s. ....				“ Dues at 9½d. ....	2	19	4½
“ 1 at £25, less 1s. ....	1,270	11	0	“ Drov ing at 2s. 6d. ....	9	7	6
“ 6 at £28, less £1 3s. 11d. ....	160	16	6	“ Inspection at 6d. ....	1	17	6
				“ Commission at 10s. ....	37	10	0
				“ Straw. ....	3	2	6
				“ Loading at 1s. ....	3	15	0
				“ Balance. ....	1,950	10	7½
	£2,020	7	6		£2,020	7	6
Gross balance, £1,950 10s. 7½d. at \$4.72. ....					\$ 9,206 51		
Less transportation charges to port of debarkation. ....					3,057 00		
Net balance. ....						\$ 6,149 51	
Live weight at Montreal. ....							85,657 lbs.

#### *Returns—*

Seventy-five steers realized a gross price of \$8.03 per cwt., and, after taking into account the average cost of shipping to Montreal, a net price of \$7.18 per cwt.

These seventy-five steers, averaging 1,142 pounds, shipped as stores, were sold for grass-feeding by private treaty rather than by public auction, at prices ranging from £25 to £29/10/- per head. Six were sold on the Norwich Market, thus some of these cattle were bought for grass-feeding in various parts of England and, in one case, a lot went as far north as Montrose, Scotland.

It will be noted that these cattle realized a gross return of \$8.03 per cwt. on live weight at Montreal, and, after taking into account the average cost of shipping to Montreal, a net price of \$7.18 per cwt. At the time of shipment, similar steers at Montreal were bringing from \$6.50 to \$7.50 per cwt.

#### *Lot V—Six Rough Steers*

When the cattle were graded out in Montreal, it was found that there were some five or six poor-looking steers, consequently to make the shipment more uniform and give round numbers to work with, six were killed and sold on the Montreal market and the remaining 180 were used for the experiment. Table XII gives the expenses and receipts from Lot V.

TABLE XII.—STATEMENT OF EXPENSES AND RECEIPTS ON SIX ROUGH STEERS KILLED AND SOLD IN MONTREAL TO BE COMPARED WITH FIVE ROUGH STORE CATTLE KILLED AND SOLD AT BIRKENHEAD

—	Indian Head	Winnipeg	Ottawa	Lennoxville	Total
Number.....	1	2	2	1	6
Total cost shipping to Montreal.....	14.51	21.58	4.02	2.39	42.50
To 6 dressed carcasses 3,647 lbs. at 10c. per lb.....	\$364.70				
“ 6 hides.....	432	10½	45	36	
“ 6 hearts.....	22	3	.....	66	
“ 6 livers.....	31	3	.....	0.93	
“ 6 ox tails.....	10	5	.....	0.50	
“ 6 beef heads.....		90c. each.....	5.40		
“ Fat.....	282 lbs. at 3c. per lb.....	8.46			
			By balance.....		414.01
					\$426.01
Gross balance.....					\$ 414.01
Less total cost shipping to Montreal.....					42.50
Net balance.....					\$ 371.51
Live weight at Montreal.....					6,570 lbs.

*Returns—*

Six rough steers realized a gross price of \$6.30 on the live weight at Montreal, and, after taking into account the average cost of shipping to Montreal, a net price of \$5.65 per cwt.

It will be noted that these steers realized a gross price of \$6.30 per cwt. on live weight at Montreal, and, after taking into account average cost of shipping to Montreal, a net price of \$5.65 per cwt.

The individual dressed weights of these six rough steers is given in table XIII.

TABLE XIII.—INDIVIDUAL DRESSED WEIGHT OF SIX ROUGH STEERS SLAUGHTERED AT MONTREAL

No.	Weight	Farm
1.....	lbs.	
2.....	751	Lennoxville.
3.....	625	Indian Head.
4.....	618	Ottawa.
5.....	672	Rosthern.
6.....	542	Ottawa.
	625	Rosthern.

Total live weight 6,525 lbs. + 45 lbs. difference in steer exchanged.

“ dead “ 3,807 lbs. + 26 lbs. difference in steer exchanged.

Dressing percentage 58.34 p.c.

It will be noted that these cattle dressed 58.34 per cent so that they were faulty in being rough rather than in a lack of beef type.

*Lot VI—Five Rough Stores*

Four of the eighty cattle shipped as stores were rather rough to sell as such and one was injured, consequently five were slaughtered with the twenty-five fat steers and sold in Birkenhead as fresh meat. These steers averaged 1,142 pounds, the same weight as the other seventy-five store cattle, but they were not as finished. Table XIV gives the expenses and receipts in connection with this lot.

TABLE XIV.—STATEMENT OF EXPENSES AND RECEIPTS ON FIVE ROUGH STORE CATTLE KILLED AT BIRKENHEAD TO BE COMPARED WITH SIX ROUGH STEERS KILLED AND SOLD IN MONTREAL

<i>1</i> killed (shoulder hurt)—	£	s.	d.		£	s.	d.
To 2 sides—534 at 8½d.....	18	7	1	By Lairage at 3s.....		15	0
“ Hide.....	1	15	4	“ Dues at 9½d.....		3	11½
“ Offal.....	1	5	6	“ Drovining at 2s. 6d.....		12	6
“ Fat, 33 lbs.....	8	3		“ Inspection at 6d.....		2	6
				“ Commission at 10s.....		2	0
				“ Slaughter houses charge.....		15	0
				“ Dressing.....		1	7
				“ Balance.....		128	15
<i>4</i> killed (rough steers)—							3½
To 6 sides, 2,016 at 8½d.....	71	8	0				
“ 2 sides, 760 at 8½d.....	26	18	4				
“ 4 hides.....	8	3	3				
“ 4 offal.....	5	2	0				
“ Fat, 136 lbs.....	1	14	0				
	£ 135	1	9		£ 135	1	9
Gross balance, £128 15s. 3½d. at \$4.72.....				\$ 607 77			
Less transportation charges to port of debarkation.....				203 80			
Net balance.....				\$ 403 97			
Live weight at Montreal.....				5,708 lbs.			

*Returns.*—Five rough store cattle realized a gross price of \$7.93 per cwt. on live weight at Montreal and taking into account average cost of shipping to Montreal a net price of \$7.08 per cwt.

It will be noted that these rough store cattle slaughtered in Birkenhead realized a gross price of \$7.93 per cwt. on live weight at Montreal, and, after taking into account the average cost of shipping to Montreal, a net price of \$7.08 per cwt.

To complete the statement regarding the five rough store cattle, table XV is given.

TABLE XV.—INDIVIDUAL DRESSED WEIGHT OF FIVE ROUGH STORE CATTLE KILLED AT BIRKENHEAD

1. 534 lbs.....	Indian Head.
2. 668 lbs.....	Kentville.
3. 635 lbs.....	
4. 713 lbs.....	
5. 756 lbs.....	Lennoxville.
Total live weight.....	5,708 lbs.
Total dead weight.....	3,310 lbs.
Dressed percentage.....	58 p.c.

It will be noted that these five rough store cattle killed out at comparatively light weights, but had a slightly higher dressing percentage than the twenty-five fat steers of Lot II.

#### Receipts from Sink (Slaughter-house By-products)

A very important return and one which greatly affects the price on the English market is the price received for the sink, or what is more commonly known in Canada as the slaughter-house by-products.

Tables XVI and XVII are presented to give the reader an idea of the relative returns from the by-products in Canada and England.

TABLE XVI.—RECEIPTS OF SINK (SLAUGHTER-HOUSE BY-PRODUCTS) FOR FIFTY-SIX STEERS (FIFTY FATS AND SIX CULLS) KILLED AT MONTREAL

19 hides.....	1,368 lbs. at 10½c. per lb.....	\$143 64
31 branded hides.....	2,438 " " 8½c. "	207 23
6 hides.....	432 " " 10½c. "	45 36
50 hearts.....	200 " " 3c. "	6 00
6 hearts.....	22 " " 3c. "	0 66
50 livers.....	262 " " 3c. "	7 86
6 livers.....	31 " " 3c. "	0 93
50 ox tails.....	80 " " 5c. "	4 00
6 ox tails.....	10 " " 5c. "	0 50
50 beef heads.....	" 90c. each.....	45 00
6 beef heads.....	" 90c. each.....	5 40
50—2,600 lbs. fat.....	" 3c. per lb.....	78 00
6— 282 lbs. fat.....	" 3c. per lb.....	8 46
Total.....		\$ 553 04
Average per steer.....		9 88

Live weight at Montreal—69,125 lbs.—80c. per cwt.

TABLE XVII.—RECEIPTS OF SINK (SLAUGHTER-HOUSE BY-PRODUCTS) FROM THIRTY STEERS (TWENTY-FIVE FATS AND FIVE STORES) KILLED AT BIRKENHEAD

	£	s.	d.
25 hides net.....	48	0	0
1 hide.....	1	15	4
4 hides.....	8	3	3
25 Offal.....	31	17	6
1 Offal.....	1	5	6
4 Offal.....	5	2	0
25—1,030 lbs. fat at 3d.....	12	17	6
1— 33 lbs. fat.....	8	3	
4— 136 lbs. fat.....	1	14	0
Total.....	111	3	4 at \$4.72....
Average per steer.....			\$524 70 17 49

Live weight at Montreal—35,928 lbs.—\$1.46 per cwt.

It will be noted in table XVI that the steers killed in Montreal realized a return of \$9.88 per steer for offal. On the basis of the live weight in Montreal, this amounted to a valuation of 80 cents per cwt. on the live weight of the animals.

From table XVII it will be seen that the steers killed at Birkenhead realized a return of \$17.49 per steer for offal. On the basis of the live weight at Montreal, this amounted to a valuation of \$1.46 per cwt. on the live weight of the animals. In other words, cattle shipped to England and killed under conditions obtaining at time of this shipment realized 76 cents per cwt. more than cattle killed in Canada due to the difference in value of offal alone.

### SUMMARY OF LIVE CATTLE SHIPMENT

To summarize the results of sales of live cattle, it may be said that the steers in lot III, averaging 1,296 pounds each, fairly well finished according to Canadian standards but lacking the finish required for the English market, which were sold as short-keep stores, gave the highest returns, i.e., \$8.58 per cwt. net f.o.b. Montreal.

Lot IV, averaging 1,142 pounds each and in only fair flesh, sold as long-keep stores, gave the next best return, i.e., \$7.18 per cwt. net f.o.b. Montreal.

Lot VI, averaging 1,142 pounds each, classed as rough stores and killed and sold as fresh meat at Birkenhead, gave the third highest returns, i.e., \$7.08 per cwt. net f.o.b. Montreal.

Lot II, averaging 1,209 pounds each, well finished according to Canadian standards, killed at Birkenhead and sold as fresh meat at London, gave the fourth highest returns, i.e., \$6.73 per cwt. net f.o.b. Montreal.

Lot V, averaging 1,095 pounds each, classed as rough steers, killed and sold at Montreal, gave the lowest returns of any steers sold alive, i.e., \$5.65 per cwt. net f.o.b. Montreal.

All lots of live cattle realized considerably higher returns than did the chilled beef shipment.

Had the lots shipped, killed and sold as fresh meat in England met with a more favourable market, these lots would have given much greater returns and altered the standing of the other lots.

An apparent discrepancy, i.e., good heavy steers in lot II realizing a lower return than the poorer, lighter steers in lot VI, is explained by the fact that the former had heavier selling charges, due to shipping from Birkenhead to London. Had it not been for the extra charge, lot II would have realized approximately \$7.50 per cwt. net f.o.b. Montreal and thus have given higher returns than lot IV even. The advisability of overcoming the necessity for this charge is discussed later.

#### DETAILS OF DISPOSAL OF CATTLE

Tables XVIII and XIX are given to show the disposition of the animals from the various Farms and Stations. They will be of particular interest to the superintendents of the Experimental Farms and Stations concerned, but may also interest the general reader who cares to analyze the experiment.

TABLE XVIII.—SALES

Parker & Fraser, Smithfield Market, London, Eng.	18	Lethbridge.
	12	Rosthern.
	6	Indian Head.
	2	Brandon.
	4	Ottawa.
	6	Lennoxville.
	2	Kentville.
	50	Fat slaughter—Chilled meat.
Six Culls slaughtered, Montreal.....	2	Rosthern.
	1	Indian Head.
	2	Ottawa.
	1	Lennoxville.
	6	
Stimpson & Lloyd, Smithfield Market, London, Eng.	3	Lethbridge.
	5	Rosthern.
	4	Brandon.
	5	Ottawa.
	6	Lennoxville.
	2	Kentville.
	25	fat shippers—fresh meat.
H. M. The King, A. C. Beck, Agent, Sandringham Estate.	14	Lethbridge.
A. J. Young, Kemblington Hall, Blowfield, Norfolk.	1	Lethbridge.
	1	Rosthern.
	2	
Mr. Harker, Blowfield Hall, Norwich.....	1	Rosthern.
	1	Lennoxville.
	2	
W. J. Page, Alsham Road, North Walsham.....	4	Rosthern.
	2	Brandon.
	1	Lennoxville.
	7	
Total.....	25	fat shippers—sold alive.

TABLE XVIII.—SALES—*Con.*

J. Stubbs, Harrington, Kettering, Hampshire.....	7	Rosthern.
	1	Indian Head.
	2	Brandon.
	3	Ottawa.
	7	Kentville.
John Ross, Montrose, Scotland.....—.....	19	Rosthern.
	10	Indian Head.
	2	Brandon.
	9	Ottawa.
	4	Lennoxville.
	5	Kentville.
Stanley Eve, Upminster, Essex.....	1	Rosthern.
	2	Indian Head.
	1	Lennoxville.
	2	Kentville.
5 killed at Birkenhead.....	1	Indian Head.
	2	Lennoxville.
	2	Kentville.
	80	Store cattle.

TABLE XIX.—FARM DISPOSALS

*Symbols—*

F	Classified either as fat shippers or fat slaughter.
S	Classified in 80 store shipper group.
C	Rough Steers disposed as culs.

*Lethbridge—*

18F	Killed Montreal for Parker & Fraser.
3F	Killed Birkenhead for Stimpson & Lloyd.
14F	Sold Birkenhead to H.M. The King at £35.
1F	Sold Birkenhead to Young at £38.

36

*Rosthern—*

12F	Killed Montreal for Parker & Fraser.
2C	Killed Montreal as culs.
5F	Killed Birkenhead for Stimpson & Lloyd.
1F	Sold Birkenhead to Young at £31.
1F	Sold Birkenhead to Harker at £38.
1F	Shipped Norwich and sold to Page at £35.
3F	Shipped Norwich and sold to Page at £28.
7S	Sold Birkenhead to Stubbs at £29 10s.
19S	Sold Birkenhead to Ross at £26.
1S	Shipped Norwich and sold to Eve at £28.

52

*Indian Head—*

6F	Killed Montreal for Parker & Fraser.
1C	Killed Montreal as cull.
1S	Killed Birkenhead <i>re</i> lameness.
1S	Sold to Stubbs at £29 10s.
10S	Sold Birkenhead to Ross at £26.
2S	Shipped Norwich and sold to Eve at £28.

21

## SHIPPING CONDITIONS

The conditions under which the cattle are shipped overseas have an important bearing on their sale value on landing. One of the important factors is the temperature of the quarters in which they are housed in the ship. Table XX constitutes a record of the temperatures on the amidship cattle deck en route.

*Brandon—*

2F	Killed Montreal for Parker & Fraser.
4F	Killed Birkenhead for Stimpson & Lloyd.
2F	Shipped Norwich and sold to Page at £28.
2S	Sold Birkenhead to Stubbs at £29 10s.

12

*Ottawa—*

4F	Killed Montreal for Parker & Fraser.
2C	Killed Montreal as culs.
5F	Sold Birkenhead for Stimpson & Lloyd.
3S	Sold Birkenhead to Stubbs at £29 10s.

9S

*Lennoxville—*

6F	Killed Montreal for Parker & Fraser.
1F	Killed Montreal <i>re</i> lameness.
6F	Killed Birkenhead for Stimpson & Lloyd.
1F	Sold Birkenhead to Harker at £38.
1F	Shipped Norwich and sold to Page at £28.

4S

4S	Sold Birkenhead to Ross at £26.
1S	Shipped Norwich and sold to Eve at £28.
2S	Killed at Birkenhead as culs.

22

*Kentville—*

2F	Killed Montreal for Parker & Fraser.
2F	Killed Birkenhead for Stimpson & Lloyd.
7S	Sold Birkenhead to Stubbs at £29 10s.
4S	Sold Birkenhead to Ross at £26.
1S	Sold Birkenhead to Ross at £25.
2S	Shipped Norwich and sold to Eve at £28.

2S

2S	Killed Birkenhead as culs.
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TABLE XX.—AMIDSHIP CATTLE-DECK TEMPERATURES EN ROUTE

1923	4 A.M.	8 A.M.	Noon	4 P.M.	8 P.M.	Midnight
May 28.....	Loaded 2 P.M.				73 F	68°F
29.....	78°F	64°F	54°F	55°F	51	53
30.....	53	50	51	62	53	56
31.....	58	62	67	64	65	65
June 1.....	60	64	60	62	61	59
2.....	65	59	69	62	65	61
3.....	64	65	65	66	67	69
4.....	72	70	71	73	73	74
5.....	72	68	70	76	74	69
6.....	69	64	66	66	75	78
7.....	74	80	76	69	72	71
8.....	73	71	71	74	74	73
9.....	78	73	69	68	75	74
10.....	76	75	68	60	72	71
11.....	Unloaded 7.30 A.M.					

It will be noted that the temperatures did not vary very much except on the 4th and 5th, which variation is accounted for by the fact that the weather was stormy and the port holes had to be kept closed.

#### TIME TO SHIP STORE CATTLE

*For Grass-Feeding.*—During March and up to the end of May and June depending on the earliness and lateness of the season.

*For Stall-Feeding.*—From September to December.

These two periods are undoubtedly the ones at which the most cattle will be shipped the most advantageously from the standpoint of the Canadian shipper. Nevertheless, during the other months of the year there will still be a market for smaller shipments, the demand for which will be regulated to a certain extent by seasonal conditions in Great Britain, such as the shortage or abundance of grass and root crops.

#### BEST CLASS OF CATTLE

Good, breedy, polled steers not over three and one-half years, weighing from 1,000 to 1,250 pounds live weight. The lighter steers are more suitable for a longer feeding period, therefore are adapted for grass-feeding purposes and should make prime beef after three to five months' feeding. The heavier steers, which are more suitable as short keeps, should be sent for stall-feeding and should finish for prime beef after two to three months' feeding.

#### SUGGESTIONS

##### TYPE, QUALITY AND UNIFORMITY

Rough, leggy cattle, with the dairy type predominating, are undesirable. Smooth polled, well-bred steers, sorted according to size, colour and finish, meet the requirements. Cattle "Level in lots" sell to best advantage either by private treaty or by public auction. A thin, well-bred animal will frequently sell to better advantage than a rough, heavier steer.

##### KEEPING DOWN EXPENSE ON FAT STORES

In order to avoid extra expense with fat or short-keep stores, where there is the possibility of their being slaughtered at point of landing, such cattle should, if possible, be unloaded at a landing place where they can be either slaughtered or otherwise disposed of without further railroad charges to an inland market.

## CAPABLE FOREMEN AND CATTLEMEN RESPONSIBLE FOR GREAT SAVING

Another point which may mean thousands of dollars to the shipper is to have a reliable foreman in charge of the shipment on the ocean voyage so that the cattle are not handled in a haphazard manner. When the cattle are watered and fed grain and hay regularly twice a day, they may be landed in excellent condition.

## EXPERIMENTAL SHIPMENT OF STORE CATTLE, OCTOBER, 1923

The shipment reported in the previous section of this bulletin covered the different phases of the cattle-shipping industry fairly thoroughly. It was felt, however, that more information should be obtained on the relative returns from the shipping of steers of different weights, to determine the class of cattle in greatest demand and the most profitable weight of cattle to ship. In addition, the British authorities had passed a regulation subsequent to the removal of the embargo to the effect that all Canadian cattle shipped as "stores" must be classified immediately on arrival in port by a veterinary inspector into "fats" and "stores," all falling in the former class to be slaughtered at the port of landing similarly to cattle shipped as "fats" under the regulations existing previous to the lifting of the embargo. The application of this regulation largely nullified the removal of the embargo and seriously hampered the Canadian store cattle trade. Commission men and dealers would advertise the date of arrival of a certain steamer with so many Canadian store cattle. Buyers would come to the port only to find that a part or all of the shipment had been classed as fats, and stores of the class desired were available only in limited numbers, if at all.

The main object of this second shipment was in the nature of a test to discover the working of the new entry regulation and to determine, if possible, the type, weight and degree of finish in the cattle that the British farmer desired as stores.

Sixty steers of good beef type, i.e., short-legged, thick, well-fleshed animals, were selected from the pastures at the Central Experimental Farm, Ottawa, Ontario. Here the animals were weighed individually and then grouped into three lots of twenty each, according to their weights. Photographs of each lot and of representative individuals of each lot were then taken. Each lot was then loaded separately and shipped to Montreal on through billing for export.

The following table gives the range in weights, average weight, shrinkage in transit to Montreal and recovery in weight while at Montreal.

TABLE XXI.—WEIGHTS OF STEERS

—		Lot 1	Lot 2	Lot 3
Number of head.....	No.	20	20	20
Heaviest steer.....	lbs.	1,140	1,210	1,360
Lightest steer.....	"	1,010	1,140	1,220
Average weight.....	"	1,095	1,169 $\frac{1}{2}$	1,273 $\frac{1}{2}$
Average shrink in transit to Montreal.....	"	64	74 $\frac{1}{2}$	73 $\frac{1}{2}$
Average gain while in stock yards.....	"	54	105	50

While in the Montreal Stock Yards, the cattle were ear-tagged, roped and branded with the letter "C" by the fire-brand method. The branding is a new regulation which went into force September 1, 1923, at the instance of the British Ministry of Agriculture. A further reference to this question of branding will be made later in this report.

The cattle were loaded on the boat at 12 o'clock noon, October 9, and reached the Birkenhead landing place at 8 a.m. on October 20, which constituted a fairly rapid trip. The weather was of the finest and the cattle shipped exceedingly well as a consequence. Feed shipped for the 60 cattle consisted of approximately  $8\frac{1}{2}$  tons hay,  $\frac{1}{2}$  ton of straw, and 54 bags of grain feed. In the opinion of the writer, when shipping store cattle, the proportion of straw could be increased and the grain decreased, thus effecting quite an economy and still landing the cattle in good shape. This is particularly true if a good quality of hay is shipped. In the case of cattle fairly well forward in finish, which might possibly meet a market on which they would sell better as fat cattle than as stores, it would be advisable to feed all the grain that the cattle would consume to keep up as high a condition as possible. Conditions for the feeding of grain on board ship could, in many cases, be easily improved at little expense.

Immediately upon landing, the cattle were segregated in the reception lairs provided for them. They were then inspected and passed as regards freedom from diseases mentioned in the Act, after which their lairages were thrown open to the public.

The next inspection consisted in an examination of the lot to determine which ones, if any, should be allowed to go inland as stores and which ones should be classed as fats and be ordered slaughtered immediately. The inspection was held on the Monday morning following arrival, in the presence of the chief inspector of the British Ministry of Agriculture and of the Deputy Minister and the Commissioner of the Canadian Department of Agriculture. The inspectors classed the whole shipment as "fats" and they were held for slaughter at the port of entry.

This result was not unexpected, for the Canadian officials present had just previously seen a whole boat-load of cattle which had been classed as "fats," the majority of which were much inferior in finish to the sixty steers in this experimental lot, and many of which were simply frames which would require the putting on of up to 200 pounds of flesh and fat before they would be fit for killing.

As soon as the classification of the sixty steers had been determined, they were offered for sale by the firm of Chapman & Everett of Fakenham, Norfolk, England. They met a dull market, due, first, to a recent dock strike settlement in Ireland with a consequent extra rush of Irish cattle to English ports, second, to the fact that the previous boat-load had all been classed as "fats," and, lastly, to the presence on the market of large shipments of chilled and frozen beef.

#### RETURNS FROM THE SHIPMENT

The twenty heavy steers brought £26-15-0 per head and the remaining forty, £23 per head, this latter figure being on a basis of £24 per head for the 20 medium weight steers and £22 per head for the 20 lightest steers.

The following is a table of the values realized under the different methods of quoting and selling.

TABLE XXII

		Equivalent price per pound in sink on basis of subsequent average dressed carcass weights	Price per pound for dressed carcass in Canadian currency
20 heavier.....	£26-15-0	9 1/5 d.	18-4c.
20 medium.....	£24- 0-0	9 d.	18-0c.
20 lights.....	£22- 0-0	8 3/4 d.	17-5c.

According to Live Stock Branch cables for that week, Canadian fat cattle at Birkenhead were bringing only 18 to 18½ cents per pound in sink. London quotations for the same period for Canadian dressed sides were 16-17 cents per pound, so that the cattle were fairly well sold.

Table XXIII gives a statement of expenses of shipping these sixty head of cattle to England.

TABLE XXIII.—STATEMENT OF COST OF SHIPPING WHOLE GROUP AND SEPARATE LOTS OF CATTLE TO ENGLAND

—	Total (60 steers)	Lot 1 (20 steers)		Lot 2 (20 steers)		Lot 3 (20 steers)	
		\$	cts.	\$	cts.	\$	cts.
Freight to Montreal.....	126 35	39 14		41 61		45 60	
Unloading cars.....	3 00	1 00		1 00		1 00	
Cleaning cars.....	2 25	0 75		0 75		0 75	
Feeding at yards (2 days).....	97 68	32 56		32 56		32 56	
Reloading to wharf.....	3 00	1 00		1 00		1 00	
Ocean feed.....	234 12	78 04		78 04		78 04	
Wharfage at 15c. each.....	9 00	3 00		3 00		3 00	
Ropes, pails, etc.....	17 95	5 98		5 98		5 99	
Roping cattle at 7½c. each.....	4 50	1 50		1 50		1 50	
Shipping cattle—2 at \$3 each.....	6 00	2 00		2 00		2 00	
Handling at 50c. each; tagging at 5c. each.....	33 00	11 00		11 00		11 00	
Insurance (value \$150 per steer at ½%).	56 25	18 75		18 75		18 75	
Ocean freight at \$20 each.....	1,200 00	400 00		400 00		400 00	
Total cost.....	1,793 10	594 72		597 19		601 19	
Average cost per steer.....	29 88	29 73		29 86		30 06	

Table XXIV following gives the expenses and receipts on the sixty head of store cattle when disposed of as fats on the Birkenhead market.

TABLE XXIV.—STATEMENT OF EXPENSES AND RECEIPTS ON 60 STORE CATTLE SOLD AS FATS ON BIRKENHEAD MARKET

	£	s.	d.		£	s.	d.
To 20 (Lot 1) at £22, less 9 d. each.....	439	5	0	By lairage at 3s. each.....	9		
To 20 (Lot 2) at £24, less 9 d. each.....	479	5	0	“ driving at 2/6 each.....	7	10	..
To 20 (Lot 3) at £26/15/-, less 9d each....	534	5	0	“ inspection at 6 d. each.....	1	10	..
				“ commission at 7/6 each.....	22	10	..
				“ dues at 9½ each.....	2	7	6
				“ feed.....	4	10	..
				“ balance.....	1,405	7	6
	£1,452	15	0		£1,452	15	0

Table XXV following shows the gross return, net return and price per pound live weight realized on the steers in the different lots.

TABLE XXV.—GROSS AND NET RETURN AND PRICE PER POUND

—	Lot 1	Lot 2	Lot 3
Number head per lot.....	20	20	20
Gross return.....	£439/ 5/- 15/15/10	£479/ 5/- 15/15/10	£534/ 5/- 15/15/10
Less overseas expenses.....	£423/ 9/ 2	£463/ 9/ 2	£518/ 9/ 2
At \$4.60 to the £.....	\$ 1,947.91	\$ 2,131.91	\$ 2,384.91
Less expenses to port of debarkation.....	594.72	597.19	601.19
Net return.....	\$ 1,353.19	\$ 1,534.72	\$ 1,783.72
Average return per steer.....	67.66	76.74	89.19
Live weight at Montreal.....	20,625 lbs.	21,900 lbs.	24,000 lbs.
Price received per pound on basis Montreal live weights, all expenses paid.....	6.56c.	7.01c.	7.43c.
Advantage per pound over Lot 1, due to lower shipping and selling costs per pound live weight.....		0.17c.	0.42c.
Return per pound live weight with above-mentioned advantage eliminated.....	6.56c.	6.84c.	7.01c.
Dressing percentage.....	58.6%	58.6%	58.08%

#### CATTLE CLASSES AND PRICES

The fact that all of the cattle in this shipment were ordered slaughtered as "fats" at the port of landing made it impossible to carry out to a finish the objects of the experiment, namely, to determine the type, weight and degree of finish most desired in the cattle that the British farmers selected as stores. From comments which were passed on this shipment previous to slaughter, however, it was evident that cattle of this class would meet with ready sale in the cattle-grazing districts, the preference being for the medium weight, blocky, well-fleshed steer.

From the foregoing tables, however, it will readily be seen that insofar as steers for immediate slaughter are concerned, the heavier steers were the most profitable shippers, the medium-weight lot realizing 0.45 cents per pound more and the heavy lot 0.87 cents per pound more than the light-weight steers. Approximately 20 per cent of the increased return in the case of Lot 2 and 23 per cent of the increased return in the case of Lot 3 over Lot 1 is to be accounted for by the advantage which the heavier steers had in shipping and selling costs, due to the fact that these costs are, with the exception of the railway freight in Canada, charged at so much per head rather than at so much per pound live weight. This advantage amounted to 0.17 cents per pound live weight for Lot 2 and 0.42 cents per pound live weight for Lot 3 over Lot 1. The remainder of the increased return is due to the higher price obtained per pound live weight for the heavier steers. It will, therefore, be seen that the heavier steers in this shipment enjoyed two distinct advantages—a reduced shipping cost and an appreciable advance in sales price.

An exception to the above rule is that, in some cases, steers averaging under 1,000 pounds may be transported across the ocean on the basis of five head in the space of four and for a freight charge of \$18 per head, a reduction of \$2 per head on the regular charge. This means a considerable reduction in cost of shipment, but it has the disadvantage of a tendency to crowd the cattle on board ship, with the result that they do not ship as well. Furthermore,

cattle of this weight must be of exceptionally good quality, even with this reduction in ocean freight, before they will realize a price sufficient to cover the remaining heavy charges against them.

Naturally, an important factor in connection with this business is the prevailing rate of exchange. If a shipment happens to be marketed at a period when the value of the pound sterling has depreciated considerably, as was the case in this instance, what might have been a fair profit may be turned into a loss.

#### QUALITY OF THE DRESSED MEAT

An opportunity was taken to examine the dressed carcasses as they hung on the rail. The quality was invariably good but in spite of the fleshy appearance of the steers on the hoof, the carcasses did not show sufficient finish. This was particularly noticeable in the lack of internal fat, the kidney knobs being quite bare in many cases, the whole carcass assuming a reddish colour instead of the marbled white of that of an animal finished on English grass or in an English feed-lot. From observation later on carcasses of Canadian cattle finished in England, it was demonstrated that Canadian cattle would acquire the finish and marbled whiteness of carcass desired if given an opportunity; and if steers of the quality of this shipment were the rule, the necessary finish would be acquired in a very few weeks. The quality of the dressed meat resulting from the shipment clearly demonstrated that such cattle were not fit for immediate slaughter and that consequently the slaughter of such cattle at the port of entry as "fats" was working an injustice to the animals and an injury to the reputation of Canadian cattle.

#### CONDITION OF THE CARCASSES

Insofar as condition of the carcasses was concerned, nothing was left to be desired, as there was not a sign of a bruise on a carcass. This was rather a pleasing contrast, from a Canadian standpoint, to the condition of the dressed carcasses of Irish cattle, for the latter invariably included a number badly bruised. The good condition of these Canadian dressed carcasses was no doubt due, in part, to the fact that the steers were all dehorned animals and could not, therefore, damage one another. Also the facilities for, and method of handling, both in the Canadian stock yards and on board ship, are such that little, if any, damage is done to the carcasses.

#### QUALITY OF THE HIDES

The handling of the hides was observed and it was found that any hides having a fire-brand that showed through on the inside on a valuable portion of the hide were classed as branded hides and received a cut in price sufficient to lower their value about \$2 apiece. Even the newly applied "C" brand on the left hip, though only lightly given, was sufficient to cause the low classification of some hides.

#### SHIPPING QUALITIES OF THE DIFFERENT BREEDS AND TYPES OF STEERS

This shipment was made up of steers representing the three main beef breeds, i.e., Shorthorns, Aberdeen Angus and Herefords. In the opinion of the writer, formed from careful observation during the trip, the Shorthorn makes the best shipper, being much more tractable and docile, soon accustoming itself to the unusual conditions and proving a good feeder. The Aberdeen Angus would qualify for second place in this regard with the Hereford running last as they do not take kindly to confinement, consequently feed poorly and land in thin condition.

In every bunch of steers there will usually be found a few that are nervous, irritable and even dangerous to handle. Such should be disposed of at the first opportunity on a Canadian market, for it does not pay to ship them. They invariably feed poorly on board ship and keep others from feeding as well. In addition, as soon as they are spotted on the other side, they are culled out and sent to the slaughter house and sold for what they will bring rather than have them continually inciting the remainder of the lot. Needless to say, any steer that shows any sign of being a poor doer should be eliminated, for the conditions of the trip are such that steers of this kind are just the ones to sicken and cause financial loss to the shipper and damage to the reputation of Canadian cattle.

Above all things, big, rough, ungainly animals should be cut out of all shipments. The above opinion was formed as a result of seeing one fairly high-quality shipment which was spoiled by the inclusion of some half dozen big, rough, bony four- or five-year-old steers that had the appearance of having seen service as oxen. So outstandingly crude was their appearance that one prospective buyer was led to enquire if by any chance they were "got" (sired) by buffalo. Such a remark would travel further and do the cattle trade more harm than the good that might be done it by ten shiploads of good cattle.

#### CANADIAN AND IRISH CATTLE COMPARED

From what was observed, the Canadian cattle compared quite favourably with Irish cattle. It is just possible that the Irish cattle showed a little more breeding and finish but this the Canadians made up for in their growthiness. Given cattle of equal quality on the same market, very little, if any, difference was noticeable in the prices which they brought. Where the Irish trade excels over the Canadian is in its volume, Canadian shipments being more or less of "a drop in the bucket" compared to what comes out of Ireland. When one considers the vastness of Canadian territory and the limited area of Ireland, one wonders where the Irish cattle all come from. The volume of the Irish shipments suggests the possibilities for the development of the trade in this country.

#### THE EFFECT OF THE FROZEN MEAT TRADE ON CANADIAN LIVE CATTLE TRADE

Great Britain consumes enormous quantities of imported chilled and frozen beef annually, not from preference but from necessity, frozen and chilled beef selling for three to four pence per pound less than fresh-killed beef. Just as soon as this spread between fresh beef and frozen beef becomes less, more fresh beef will be consumed and less frozen beef imported. One of the effects of the placing of Canadian fresh beef on the market in Great Britain in fairly large quantities will be to lower the price of home-grown fresh meat and thus create a greater consumption and demand for fresh meat to the detriment of the chilled beef trade and eventually to the benefit of the Canadian live cattle trade.

#### THE TWO GREAT NEEDS

One is safe in saying that the two great needs of the cattle-shipping industry at the present time are lower shipping rates, both rail and ocean, and better sires. When it is considered that out of the \$122.88 received for each steer in the most profitable lot (Lot 3) in this shipment, \$33.69 or 27 per cent was deducted largely for transportation charges, it will be realized that lower shipping rates are imperative, for no industry can stand a transportation charge of 27 per cent on its finished product over and above its manufacturing cost. It is to be hoped that the shipping companies will find it to their interest to reduce carrying charges and to arrange for a more regular and adequate supply of ocean space.

Coming to the second great need—better sires—it may be said that, while the quality of the cattle being shipped overseas is, from our Canadian stand-point, fairly good, nevertheless there is great room for improvement. We need cattle showing more breediness and uniformity—short-legged, blocky, well-fleshed animals that can be got only, and most economically, by using high-quality, well-bred sires. The effect of such sires on the industry would be two-fold. In the first place, they would reduce the cost of production, the better-bred steers being better doers, and, in the second place, they would increase the price received for the animals. This, cutting the cost on the one hand and increasing the return on the other without adding to the intermediate charge—transportation—would mean the increased margin of profit that would spell success for the industry.

### A TRIAL SHIPMENT OF STORE CATTLE FROM NOVA SCOTIA

On April 20, 1924, a shipment of eighty-five head of store cattle was made from Halifax on ss. *Canadian Leader*, made up by the Experimental Station at Kentville and the Experimental Farm at Nappan, together with local contributors in each case.

The object of this shipment was: (1) to ascertain the possible returns to the breeder of beef cattle in the Maritime Provinces, as indicated by the districts mentioned, through export to Great Britain; (2) to demonstrate the acceptability on the British market of such a shipment, representative of the general type and quality of steers found in the Maritime Provinces, Nova Scotia in particular.

Particulars of the origin of the shipment are as follows:—

27 head from the Experimental Station, Kentville, N.S.

20 head from the Experimental Farm, Nappan, N.S.

38 head from local breeders of the two districts.

#### 85 Total.

The following table is an analysis of the results from the "dollars and cents" aspect of the shippers.

TABLE XXVI.—EXPENSES AND RECEIPTS

—	Exp. Station, Kentville	M.K. Ells	C.C.H. Eaton	Exp. Farm, Nappan	Chas. Logan	John Woods
Markings.....	K	D	E	N	L	L1
Number of steers..... No.	27	7	6	20	15	10
Expenses per steer—						
Freight to Halifax..... \$	2 40	2 40	2 40	2 14	2 44	2 44
Stock yards expenses..... \$	0 95	0 95	0 95	0 95	0 95	0 95
Loading, roping, tagging..... \$	1 71	1 71	1 71	1 71	1 71	1 71
Insurance..... \$	1 23	1 23	1 23	1 23	1 23	1 23
Feed on ship..... \$	5 06	5 06	5 06	5 06	5 06	5 06
Freight (ocean)..... \$	20 00	20 00	20 00	20 00	20 00	20 00
Expenses in England (Commission and miscellaneous) \$	3 86	3 86	3 86	3 86	3 86	3 86
Total shipping cost per steer. \$	35 21	35 21	35 21	35 25	35 25	35 25
Gross return per lot..... \$	2,940 82	763 20	666 00	2,331 00	1,764 90	986 83
Gross return per steer..... \$	108 92	109 03	111 00	116 59	117 66	98 68
Total expense per lot..... \$	950 67	246 47	211 26	704 95	528 90	352 60
Net return per lot..... \$	1,990 15	516 73	454 74	1,626 05	1,236 00	634 23
Net return per steer..... \$	73 71	73 81	75 79	81 30	82 40	63 42
Weight of steers (home weight) lbs.	31,560	7,350	7,300	23,621	18,345	11,490
Weight per steer..... "	1,169	1,050	1,217	1,181	1,223	1,149
Gross return per 100 lbs. (home weight)..... \$	9 31	10 38	9 12	9 87	9 07	8 60
Net return per cwt..... \$	6 30	7 03	6 22	6 88	6 73	5 51

Accompanying the returns for the sale of these cattle by Messrs. Chapman and Everett were some comments made on the shipment by them as follows:—

1. "The Kentville cattle lacked quality and class. Many were on the plain side."

2. "The Nappan cattle were fairly uniform and passable in quality."

3. "The other cattle—some showed Holstein markings, which blood never would make beef. Horned cattle should be kept out if possible and at least not mixed with dehorned lots. Two steers were of especially bad shape with no leg or loin and would never make good bullocks."

They suggest also that in future shipments we keep to size and colour as much as possible, reds, roans, and blacks at uniform weights. Good quality cattle on short legs, broad across loins and a fair length will always command top price and a ready sale. Old Country feeders want an animal which after about three or four months' good keep will weigh out dead at from 700 to 780 pounds.

In conclusion, the following points should be briefly enumerated and stressed.

1. The detrimental effect of the comparatively high cost of transportation on the net returns to the shipper or feeder, and on the development of the trade in Canadian store and fat cattle. It must be noted, however, that the eastern shipper has a decided advantage over his western competitors in this respect.

2. Referring back to the sales sheet and particularly to the remarks from Mr. Chapman, it is clearly evident that had this shipment been made up of cattle of greater uniformity as to breeding, beef type, colour, etc., higher prices would have obtained. Horned cattle are not desired, or at least, should not be included in lots of polled or dehorned animals. *"Good quality cattle, on short legs, broad across loins and of fair length will always command top price and a ready sale."*

If the costs of shipment seem high to the Maritime stockman, as they undoubtedly are, how does the feeder from Alberta and Saskatchewan fare with his port, yardage, equipment and ocean freight and feed expenses, augmented by heavy transcontinental freights? With better quality steers, showing less evidence of mixed breeding, the result of the use of high-class pure-bred bulls of the beef breeds, it would seem that the Eastern Provinces should be in a favourable situation to consider the Old Country trade in store cattle.

3. It will be evident that the net price received was very little over the local price obtaining at the time of sale. At Nappan, while the net price received was better than could have been obtained locally, the important consideration was that local prices undoubtedly appreciated from fifty to seventy-five cents per hundredweight as a direct result of the shipment. Precisely the same condition obtained in the case of the consignment from the Annapolis valley, slightly better results comparatively from export, with a stiffening of local prices.

## SHIPMENT OF STORE CATTLE TO GREAT BRITAIN, MAY, 1924

On May 15, 1924, per ss. *Manchester Brigade*, there was shipped from Montreal to Manchester by the Dominion Experimental Farms, a consignment of 140 head of store cattle originating from four Dominion Experimental Stations, three in Western Canada and one in Quebec, consigned to Messrs. Chapman & Everett, Fakenham, Norfolk, England.

This shipment, itself experimental in nature, was a continuation of experimental work, in that all cattle comprising the shipment had been utilized for feeding test work during the past winter.

The reader in analysing this experiment should first read the results from the experimental shipment of live cattle and chilled beef made in May, 1923, as the experiment covered the different phases of the cattle-shipping industry fairly thoroughly.

OBJECTS OF THE SHIPMENT.—1. To determine the relative returns from shipping steers of different weights and degree of finish.

2. To compare the returns for steers of different ages and to see whether yearlings or two-year-olds would stand the shipping charges most economically.

3. To obtain further data with reference to cost of shipment, shrinkage, and factors concerning export shipment generally.

PLAN OF EXPERIMENT.—The steers included in this shipment were those used in winter-feeding experiments at Lethbridge, Alberta; Scott, Saskatchewan; Rosthern, Saskatchewan; and Lennoxville, Quebec; Experimental Stations. They were fairly representative of the class of cattle available for the overseas trade in the districts from which they came. At the same time, when sorted into lots, they were capable of interesting comparisons. The following gives the source of the steers and how they were grouped into various lots at Montreal.

Lot 1—12 Stores, yearlings, from Experimental Station, Scott, Sask.

Lot 2—12 Stores, 2-year-olds, from Experimental Station, Scott, Sask.

Lot 3—20 Stores, 3-year-olds, from Experimental Station, Lennoxville, Quebec.

Lot 4—20 Stores, 2-year-olds, from Experimental Station, Rosthern, Sask. (all black).

Lot 5—38 Stores, 2- and 3-year-olds, from Experimental Station, Rosthern, Sask. (all reds).

Lot 6—19 Stores, 3-year-olds, from Experimental Station, Lethbridge, Alberta (short-keeps).

Lot 7—19 Stores, 2- and 3-year-olds, from Experimental Station, Lethbridge, Alberta (short-keeps).

#### COST OF SHIPPING TO MONTREAL

The cost of shipping cattle to Montreal varies according to the point from which the shipment originated. This information is given in the table following:

TABLE XXVII.—STATEMENT OF EXPENSES OF SHIPPING 161 HEAD OF CATTLE FROM EXPERIMENTAL STATIONS MENTIONED TO MONTREAL

Experimental Station	Lethbridge	Scott	Rosthern	Lennoxville	Total
Number of steers.....	38	24	59	40	161
Freight and other rail charges to Montreal.....	\$ 611 26	296 63	857 68	85 96	1,851 53
Attendant charges at \$2.56 per day.....	\$ 20 00	7 50	22 50	.....	50 00
Cost per head at Montreal.....	\$ 16 61	12 67	14 92	2 15	11 81
Cost per 100 lbs. at Montreal.....	\$ 1 35	1 29	1 32	0 19	.....

From table XXVII it will be seen that no attendant accompanied the Lennoxville cattle to Montreal. The Scott and Rosthern cattle were shipped in charge of the same attendant and the charge proportioned per car. It will also be noted that, while the cost per head is less on the Rosthern than on the Lethbridge cattle, the cost per hundred pounds live weight off cars at Montreal was about the same. This was due to the greater shrinkage of the Rosthern cattle.

## SHRINKAGE

Table XXVIII gives the shrinkage in rail and ocean shipping of the respective lots as grouped for comparative purposes. Deductions from this table are:—

1. When shipping cattle from the West, exercise the greatest care in giving them several hours rest off cars at feeding points en route. The Rosthern and Scott cattle took two days less to cover practically the same distance as the Lethbridge cattle, but the shrinkage off cars at Montreal was about double. The feed saved in transit was more than lost in shrinkage and the steers did not regain as much weight in Montreal.

2. Fat cattle lose more than thinner cattle. This fact is borne out when the Lethbridge short-keeps (Lot 6) are compared with the Lethbridge feeders (Lot 7); the loss to Moose Jaw, Winnipeg, Montreal and Manchester, respectively, is greater on the forward cattle as compared to those thinner in condition. It will be noticed that the fill in Montreal, that is the difference in weight off cars and when they were fed and watered was the same for Lots 6 and 7. For the reader's information it should be stated that Lots 1-5 inclusive, had a 48-hour rest in Montreal, while Lots 6 and 7 had only a few hours during which time the cattle had to be roped, tagged and branded instead of being allowed to rest before reloading to wharf.

3. It will be seen from the tabulations that the shrinkage during the ocean travel is light. When cattle are shipped only a few hours' distance by train from Montreal they may not shrink more after the ocean voyage than the buyer would get on farm weights at the shipping point (see Lot 3); it being customary to sell in Canada for so much per hundred farm weights less 3 per cent shrink.

The steers were not weighed at Manchester until thirty-six hours after landing, during which time they were grouped into the respective lots and tied up in the feeding lair. This took considerable time and naturally they did not have much chance to fill up before being weighed owing to being continually disturbed by prospective buyers and others. This undoubtedly increased the shrinkage over what might have been expected in the case of an ordinary commercial shipment where no special information was being sought.

## COST OF SHIPPING STORES TO ENGLAND VIA MONTREAL

In all, 140 head were shipped and the average cost from the respective shipping points is given in table XXIX.

The cost of shipping to England is slightly lower than the previous season, this due to feeds being slightly cheaper and a \$2.50 per head less charge on ocean freight. (See shipment of May, 1923.)

## RETURNS FROM SHIPMENT

As previously stated, the cattle were split into seven lots for sale in England. These lots will now be dealt with separately under their respective lot numbers.

TABLE XXVIII.—SHRINKAGE IN RAIL AND OCEAN SHIPPING  
AVERAGE LOSS PER HEAD FROM EXPERIMENTAL STATIONS TO GREAT BRITAIN, VIA MONTREAL

Lot	Number of Head	Experimental Station	Average Shipping Weight	Loss to Montreal		Gain in Montreal		Average Weight Montreal Reload Boat	Average Weight Manchester	Gain or Loss on Ocean		Grand Total Loss
				lbs.	per cent	lbs.	per cent			lbs.	per cent	
1	12 1-yr.	Scott.....	990	149	13.2	51	4.6	1,031	{	3+	3.0	{ 80
2	12 2-yr.	Scott.....	1,268	62	5.4	55	4.8	1,140	1,113	27-	2.3	111
3	20	Lemoxville.....	1,147	116	10.1	44	3.9	1,076	1,060	16-	1.5	34
4	20 black	.....	1,148	145	11.0	41	3.2	1,218	1,203	15-	1.2	77
5	38 reds.	.....	1,322	145	11.0	26	2.0	1,247	1,211	36-	2.8	119
6	19 short-keeps.	Lethbridge.....	1,309	88	6.7	25	2.0	1,212	1,182	30-	2.4	98
7	19 feeders.	Lethbridge.....	1,255	68	5.4	25						73

TABLE XXIX.—STATEMENT OF EXPENSES 140 STORE CATTLE TO ENGLAND, VIA MONTREAL

Experimental Station	Lethbridge	Scott	Rosthern	Lennoxville	Grand Totals
Number of steers.....	38	24	58	20	140
Total charges from station to Montreal.....	\$ 631 26	304 13	865 26	42 98	1,843 63
Feed charges at Montreal.....	13 26	28 32	68 44	23 39	133 41
Reloading to wharf.....	2 00	1 00	3 00	1 00	7 00
Switching charges.....		11 50	23 00		34 50
Tags 5c. each and tagging 5c. each.....	3 80	2 40	5 80	2 00	14 00
Ropes, roping and pails, etc.....	17 17	10 86	26 17	9 06	63 26
Handling, 50c. each.....	19 06	12 00	29 00	10 00	70 00
Wharfage, 15c. each.....	5 70	3 60	8 70	3 00	21 00
Marine insurance, \$130 each at $\frac{5}{8}\%$ .....	30 87	19 50	47 13	16 25	113 75
Ocean feed.....	135 74	85 72	207 16	71 41	500 03
Ocean freight (\$20.00 per head).....	760 00	480 00	1,160 00	400 00	2,800 00
Total to port of debarkation.....	1,618 80	959 03	2,443 66	579 09	5,600 58
Average per steer.....	42 60	39 96	42 13	28 95	40 00
<b>Landing Charges—</b>					
Lairage, 2/- each.....	16 84	10 64	25 70	8 87	62 05
Tolls 1/- “.....	8 42	5 32	12 85	4 43	31 02
Droving 2/6 “.....	21 05	13 29	32 11	11 08	77 53
Vet. insp.-/6 “.....	4 21	2 66	6 43	2 22	15 52
Total to time of sale.....	1,669 32	990 94	2,520 75	605 69	5,786 70
Average per steer.....	43 14	41 25	43 46	30 28	41 33

The cattle sold well and would have netted far greater returns but for the fact that the value of the pound sterling had depreciated considerably as compared to the shipment sent over the year previous; so much so that a steer selling for £30 this year in depreciation of the value of the pound sterling resulted in a net loss of \$8.63 per head to the shipper—a point in itself which means a good profit to the shipper, for, had the pound sterling remained at the same value as the year previous, the net receipts on the entire shipment of 140 head would have been \$1,103.85 more, or 3/4 of a cent per pound.

*Lot 1.—Twelve yearlings shipped from Scott, Sask.* This lot was made up of fair to choice stockers averaging 990 pounds, live weight at Scott.

Gross receipts (less market charges at Manchester).....	\$ 1,109 97
Less transportation charges from Montreal.....	327 45
Balance (receipts at Montreal).....	\$ 782 52
Receipts per cwt. at Montreal.....	7 58
Receipts at Montreal less expenses from Scott to Montreal.....	630 46
Net return (at Scott).....	630 46
“ “ per cwt.....	5 47

These steers sold readily at an average gross price of £21-13-4 which represents a gross price at Manchester of \$10.55 per cwt. on Manchester weights. These steers were appraised at Scott at \$5.50 per cwt. live weight and they realized a net price of \$5.47 per cwt. live weight at Scott after allowing 3 per cent shrinkage on farm weights.

The following comments made by Messrs. Chapman & Everett will give the reader an idea of the various lots as described by them:—

“The yearlings in Lot 1 will find a ready market if nicely selected and will command a better price in proportion to their live weights than the older cattle. They do not cost the farmer so much to buy in and they grow and fatten at the same time.”

*Lot 2.—Twelve two-year-olds from Scott, Sask.*, as represented on Western Canadian markets. They were a good lot of butcher cattle averaging 1,268 pounds at Scott.

Gross receipts (less market charges at Manchester).....	\$ 1,406 88
Less transportation charges from Montreal.....	327 45
Balance (receipts at Montreal).....	\$ 1,079 43
Receipts per cwt. at Montreal.....	8 17
Receipts at Montreal less expenses from Scott to Montreal.....	927 36
Net return (at Scott).....	927 36
"    "    per cwt.....	6 28

Two-year-olds are preferred to yearlings for spring or early summer shipment, as they can be finished off the grass, whereas the yearlings have to be carried over to Christmas.

This lot sold very readily at an average price of £27-5/- which represents a gross price at Manchester of \$10.44 per cwt. on Manchester weights. These steers were appraised at Scott at \$6 per cwt. live weight and they realized a net price at Scott of \$6.28 per cwt. after allowing 3 per cent shrinkage on farm weights. It will therefore be seen that they sold to a little better advantage than the yearlings.

The following are the comments made by Messrs. Chapman & Everett:—

“The two-year-olds in Lot 2 are a very paying proposition to the buyer as they can be finished for the Christmas trade or, if required, sold off the grass as fats.”

*Lot 3—Twenty Lennoxville, Quebec, cattle.* These were ordinary butcher cattle and were representative of the class of cattle from the district in which they originated. They would sell for good butchers on the Montreal market. They averaged 1,147 pounds at Lennoxville.

Gross receipts (less market charges at Manchester).....	\$ 2,136 91
Less transportation charges from Montreal.....	536 11
Balance (receipts at Montreal).....	\$ 1,600 80
Receipts per cwt. at Montreal.....	7 37
Receipts at Montreal less expenses from Lennoxville to Montreal.....	1,557 82
Net return (at Lennoxville).....	1,557 82
Net return per cwt. at Lennoxville.....	7 00

Lot 3 did not sell very readily, not being of the blocky type the English feeder desires. The only animal in the whole shipment which did not sell as a feeder was in this lot. It brought £16-10/- to be slaughtered for meat at Manchester.

The twenty steers in Lot 3 sold for an average price of £24-18/- which represents a gross price at Manchester of \$9.92 per cwt. on Manchester weights. These steers were appraised at Lennoxville, at \$7 per cwt. live weight, and they realized a net price at Lennoxville of \$7 per cwt. after allowing 3 per cent shrinkage on farm weights. These could therefore have been better disposed of at the time of shipment on the Montreal market, provided the market was not flooded with cattle.

The comment made by Messrs. Chapman & Everett was:—

“Lot 3 were too plain a lot of cattle to sell to advantage, showing too much of the dairy breed and not nicely selected—some being horned and showed age. They were a carcass bullock with a preponderance of bone.”

*Lot 4.—Twenty black cattle from Rosthern, Sask.* Lot 4 were a choice lot of export steers averaging 1,148 pounds at Rosthern.

Gross receipts (less market charges at Manchester).....	\$ 2,260 80
Less transportation charges from Montreal.....	540 82
Balance (receipts at Montreal).....	\$ 1,719 98
Receipts per cwt. at Montreal.....	8 32
Receipts at Montreal less expenses from Rosthern to Montreal.....	1,418 14
Net return (at Rosthern).....	1,418 14
"    "    per cwt.....	6 37

Lot 4 sold readily at an average price of £26-6/- which represents a gross price at Manchester of \$11 per cwt. on Manchester weights. These steers were appraised at Rosthern at \$6 per cwt. live weight and they realized a net price at Rosthern of \$6.37 per cwt. after allowing 3 per cent shrinkage on farm weights.

The comments made by Messrs. Chapman & Everett were:—

“Lot 4, consisting of 20 blacks, were typical feeders, nicely bred and short in the legs. These, when fat, would make 700 to 720 pound carcasses and should command the top price on the English market.”

*Lot 5.—Thirty-eight red cattle from Rosthern, Sask.* Lot 5 were good export butcher cattle, averaging at Rosthern 1,322 pounds live weight, sorted to colour.

Gross receipts (less market charges at Manchester).....	\$ 4,779 75
Less transportation charges from Montreal.....	1,034 20
Balance (receipts at Montreal).....	\$ 3,745 55
Receipts per cwt. at Montreal.....	8 37
Receipts at Montreal less expenses from Rosthern to Montreal.....	3,178 75
Net return (at Rosthern).....	3,178 75
“        per cwt.....	6 52

Lot 5 sold well, due to the fact that the entire lot were *uniform as to colour* they readily attracted a buyer and sold in lots according to size. They sold at an average price of £29-4-2½, which represents a gross price of \$10.52 per cwt. on Manchester weights. These steers were appraised at Rosthern at \$6 per cwt. live weight and they realized a net price at Rosthern of \$6.52 per cwt. after allowing 3 per cent shrinkage on farm weights.

In the appraised value Lot 5 returned more money to the shipper than any other group in the shipment.

The comments made by Messrs. Chapman & Everett were:—

“Lot 5 was a choice lot and just the class of cattle for any time of the year.”

*Lot 6.—Nineteen short-keeps from Lethbridge, Alberta.* Lot 6 were choice butcher cattle, average 1,309 pounds live weight at Lethbridge.

Gross receipts (less market charges at Manchester).....	\$ 2,510 60
Less transportation charges from Montreal.....	497 77
Balance receipts (at Montreal).....	\$ 2,012 83
Receipts per cwt. at Montreal.....	8 67
Receipts at Montreal less expenses from Lethbridge to Montreal.....	1,697 20
Net return (at Lethbridge).....	1,697 20
“        per cwt.....	7 03

Lot 6 sold for short keeps at an average of £30-12-1½ which represents a gross price of \$11.20 per cwt. on Manchester weights. These steers were appraised at Lethbridge at \$7 per cwt. live weight and they realized a net price at Lethbridge of \$7.02 per cwt. after allowing 3 per cent shrinkage on farm weights.

The reader must bear in mind that what is classified in Canada as good to choice butcher cattle are really only “short-keeps” in Great Britain or suitable for immediate slaughter depending on the market.

The comments made by Messrs. Chapman & Everett were; “Lot 6 was made up of exceptionally well-selected bullocks, of beef-making quality—with the exception of one or two blacks which showed some white markings—missing the Angus type. They being suitable for killing or keeps depending on market conditions at time of sale.”

*Lot 7.—Nineteen feeders from Lethbridge, Alberta.. Lot 7 were handy-weight export butcher cattle averaging 1,255 pounds live weight at Lethbridge.*

Gross receipts (less market charges at Manchester).....	\$ 2,313 31
Less transportation charges from Montreal.....	489 76
Balance (receipts at Montreal).....	\$ 1,823 55
Receipts per cwt. at Montreal.....	8 08
Receipts at Montreal less expenses from Lethbridge to Montreal.....	1,507 91
Net return (at Lethbridge).....	1,507 91
" " per cwt.....	6 52

Lot 7 sold for feeders at an average price of £28-5-3 $\frac{1}{4}$ , which represents a gross price of \$10.60 per cwt. on Manchester weights. These steers were appraised at Lethbridge at \$6.50 per cwt. live weight and they realized a net price at Lethbridge of \$6.54 per cwt. after allowing 3 per cent shrinkage on farm weights.

The comments made by Messrs. Chapman & Everett were:—"Lot 7 were a nice breed selection and compared favourably with Lot 5. These when fat would be 800 pound carcasses."

#### SUMMARY OF RESULTS

Table XXX gives a summary of Lot 1 to Lot 7. With the exception of the yearlings (Lot 1), Lennoxville cattle (Lot 3), and the blacks (Lot 4), they would all finish off grass as fats. That is to say, they were considered excellent short-keeps and will nearly all be disposed of within a period of six to eight weeks.

1. The yearlings in Lot 1 returned a greater gross price at Manchester than two-year olds in Lot 2, but the latter returned a greater net price at Farm. This is accounted for by the fact that while the expenses of transportation were the same in both cases, the average delivered weight at Manchester on which the price was realized was 247 pounds less per yearling steer.

2. The original cost or purchase price and the feed cost of the yearling steers was \$4.73 per cwt. Sold in Manchester they realized a net price at Scott of \$5.47, representing a net profit of \$0.74 per cwt. or \$7.12 per steer, over cost of feeding. The purchase and feed cost of the two-year olds was \$5.11 per cwt. and they sold for \$6.28 net at Scott, realizing \$1.17 per cwt. profit over cost of feed or \$14.39 per steer over cost of purchase and feed. The figures in this instance would indicate greater profits from the older steers where comparative quality was practically the same. The reason for this appears in the foregoing paragraph.

3. Comparing Lot 3 with Lot 4 it will be seen that the gross price at Montreal was approximately \$1 higher per cwt. This is due to the fact that Lot 4 was made up of choice export stores which would, when fat, make handy-weight butcher carcasses and command the highest price on the English market, while Lot 3 were too plain a lot of steers to sell to advantage, showing too much of the dairy breed and not nicely selected; and, when fat, would make only a carcass bullock.

4. Comparing Lot 5 with Lot 7 it should be noted that, while there was a great range in age, weight and degree of finish in Lot 5 as compared to Lot 7, the fact that the former sold for practically the same net price as Lot 7 was due to their having been *selected mainly on colour*.

5. Comparing Lot 6 with Lot 7 it may be stated that, while the original price of both lots was the same, the net returns at the Farm were on a par with the appraised valuations. Provided that the class of steer represented by Lot 6 (short-keeps) are exported in season to arrive in May, June or July, and do not exceed an 800 pound carcass when fat, these steers will realize more per pound live weight than feeders of the weight and finish represented by Lot 7.

A store arriving in Great Britain in June or July to command profitable prices should be forward enough in condition to finish on grass. Incidentally, it may be of interest to note that when the English grass begins to fail the steers are started on 4 pounds of cake and finished with 7 pounds per head per day.

#### TIME TO SHIP STORE CATTLE

There are two main periods:—

1. For grass-feeding—feeders as described during March up until end of May or June, depending on earliness or lateness of the season. Good well-bred cattle should be shipped during February and March. These should not be so forward in condition, but of such beef-making quality as to finish off grass in August and September as fats. During April, May and June "short-keeps," that is cattle forward in condition, should be sent.

2. For stall-feeding, thinner cattle, that is feeders should be sent during September to December.

TABLE XXX.—SUMMARY OF SHIPMENT LOTS

			Average farm weights	Average Man- chester weight	Average selling price, Man- chester	Gross price per cwt., Man- chester	Gross price Montreal	Appraised value at Farm	Net price secured at Farm
—	—	—	lbs.	lbs.	£ s. d.	\$ cts.	\$ cts.	\$ cts.	\$ cts.
Scott.....	Lot 1.....	12 yearlings.....	990	910	21 13 4	10 55	7 75	5 50	5 47
	Lot 2.....	12 2-year-olds.....	1,268	1,157	27 5 0	10 44	8 04	6 00	6 28
Lennoxville...	Lot 3.....	20 feeders.....	1,147	1,113	24 18 0	9 92	7 37	7 00	7 00
	Lot 4.....	20 feeders.....	1,148	1,060	26 6 0	11 00	8 32	6 00	6 37
Rosthern....	Lot 5.....	38 feeders.....	1,322	1,203	29 4 2½	10 50	8 37	6 00	6 52
	Lot 6.....	19 short-keeps.....	1,309	1,211	30 12 1½	11 20	8 66	7 00	7 02
	Lot 7.....	19 feeders.....	1,255	1,182	28 5 3½	10 60	8 07	6 50	6 54

#### KIND OF STORE CATTLE TO SHIP

The butcher or retail type of steer commands the highest price when fat. The big bullock or wholesale animal, or what is spoken of in England as a carcass-bullock, carrying a lot of bone about him, commands a much lower price when fat than the butcher steers. The handy-weight butcher-steer is just as much in demand in England as in this country and, quality being equal, will command the top price when fat.

Shippers would therefore do well to select steers that would land in England weighing not greatly in excess of 1,250 pounds live weight.

The low-set blocky type of steer attracts the feeder's eye when they are "level in lots." Horned cattle are at a disadvantage particularly where they destroy the uniformity of a group. The staggy type of steer with stubby stumps of horns shows age and is not desired. A poorly dehorned steer with stubs 6 to 8 inches long will often detract the buyer more quickly than will a horned animal. Branding on the ribs is decidedly objectionable as it lowers the value of the hide. There is a ten to fifteen shilling net loss on branded hides depending on the extent of the brand. All of these points the grazier in England takes into consideration and in order to command the best price on the English market, shippers will have to give more attention to the kind of cattle they ship as stores.

#### MEANS OF IMPROVEMENT

1. Lower rail and ocean carrying charges.
2. Improvement in branding. Branding should not be done on the ribs as it is the best part of the hide.

3. Wild animals should not be shipped. In the shipment just described there was included one wild steer. Not only was this animal responsible for much trouble during the voyage, but his disposition and actions excited and adversely affected other groups of steers.

4. Group cattle "level in lots" as to breed, colour, type, finish and age.

5. It is useless to consider Great Britain as an outlet for all types of Canadian store cattle. While volume of trade would undoubtedly operate toward a reduction of shipping costs, it must be kept uppermost in the mind of Canadian shippers that quality is a more potent means of advertisement than quantity.

## SHIPMENT OF STORE CATTLE TO GREAT BRITAIN, OCTOBER, 1924

In order to follow up the policy of obtaining all possible data as to the most profitable class of steer to export, the most profitable time to ship and the possible profits from such shipments, it was deemed advisable to make another experimental shipment of store cattle in the fall of 1924. Consequently, a shipment was got together in Montreal in the early part of October. Eighty steers were bought on the Calgary market and forty were shipped to Montreal, the other forty of equal quality going to the Experimental Station, Lethbridge, Alberta, to be finished and shipped overseas as fat cattle in the spring of 1925. Thus, a comparison of the relative profit from shipping store cattle in fall as against holding, feeding and shipping as fat cattle in the spring was obtained. Of the forty shipped to Montreal, one took lumpy jaw and was sold in Winnipeg, and one developed blindness and had to be sold in Montreal. These were replaced by steers from the Ottawa consignment.

The Ottawa Experimental Farm consignment consisted originally of 104 steers. Two of these were used to make up the Lethbridge forty and one was taken out on account of slight touch of lumpy jaw, leaving 141 steers for overseas shipment and two for sale in Montreal.

In addition, a private shipment of nineteen head from Ottawa going forward by the same boat was included in the experiment, for, being in an entirely different grade, they extended the scope of the investigation.

These cattle were then graded into the following lots:—

- Lot No. 1.—From Ottawa, 20 steers, heavy-weight stores, dehorned and of fair to good type.
- Lot No. 2.—From Ottawa, 20 steers, medium-weight stores, dehorned and of fair to good type.
- Lot No. 3.—From Ottawa, 20 steers, light-weight stores, dehorned, of uniform red colour, and good even type.
- Lot No. 4.—From Ottawa, 20 steers, light-weight stores of mixed breeding and colour, some with horns.
- Lot No. 5.—From Ottawa, 21 steers, very light stores, all dehorned, of particularly smooth quality.
- Lot No. 6.—From Lethbridge, 20 steers, light-weight stores, all red, all dehorned, smooth and uniform in quality.
- Lot No. 7.—From Lethbridge, 20 steers, light-weight stores, reds and roans, all dehorned, a little rougher than those in Lot 6.
- Lot No. 8.—From Ottawa (private shipment), 19 steers, heavy, short-keep stores of good uniform type.

Shipping arrangements and costs were practically the same as for experimental shipments previously reported on, except that in the case of Lots 3 to 7, inclusive, the ocean freight was only \$18, instead of the usual \$20, because the animals included in these lots averaged under 1,000 pounds each.

Table XXXI gives a summary of the results of the shipment from which it will be noted:—

1st.—That up to a certain point the heaviest steers gave the highest return. See Lots 8, 1, 2 and 3 for order of best returns.

2nd.—That where the quality and uniformity was extra good and a corresponding reduction in freight was obtained, it proved profitable to ship steers averaging as low as 890 pounds per head. (See Lot 5.)

3rd.—That the long freight haul from Calgary caused a loss (as compared to returns which might have been obtained in Montreal) even on good-quality cattle.

4th.—That cattle that were at all inclined to be of mixed breeding, not dehorned or rough in appearance, were badly discounted on the British market and sold at a decided loss as compared to cattle of better quality. However, as these steers only cost an average of \$44.31 at Calgary, the overseas' return does not represent an actual loss.

5th.—That all the cattle of good quality sold at a fairly profitable figure, the appraised value at Montreal being the maximum value that could be placed on them judging from the market that obtained at the time the cattle were shipped.

TABLE XXXI.—SUMMARY OF AUTUMN SHIPMENT, 1924

Origin and Description of Steers	Lot 1		Lot 3		Lot 4		Lot 5		Lot 6		Lot 7		Lot 8	
	Ottawa Heavy Stores, Dehorned	Ottawa Medium-weight Stores, Dehorned	Ottawa Light-weight Stores, All red. All dehorned	Ottawa Very Light Stores, All dehorned. Smooth quality some with horns	Ottawa Very Light Stores, All dehorned. Smooth quality some with horns	Ottawa Light Stores, All red. All dehorned and smooth	Ottawa Light Stores, All red. All dehorned and smooth	Lethbridge Light Stores, Red and Roans, all dehorned. Little rougher than Lot 6	Lethbridge Light Stores, Red and Roans, all dehorned. Little rougher than Lot 6	Ottawa Heavy Short-keep Stores of good uniform type	Ottawa Heavy Short-keep Stores of good uniform type			
Number of steers in Lot.	20	20	20	20	21	21	20	20	20	20	20	20	19	19
Average weight leaving starting point.	1,200	1,036 <sup>1</sup>	993 <sup>1</sup>	978 <sup>1</sup>	890	890	1,060 <sup>1</sup>	1,060 <sup>1</sup>	1,060 <sup>1</sup>	1,060 <sup>1</sup>	1,060 <sup>1</sup>	1,060 <sup>1</sup>	1,200	1,200
Average weight arriving Montreal.							972	972	972	972	972	972	1,267	1,267
Average weight leaving Montreal.							1,024 <sup>1</sup>	1,024 <sup>1</sup>	1,024 <sup>1</sup>	1,024 <sup>1</sup>	1,024 <sup>1</sup>	1,024 <sup>1</sup>		
*Cost freight, feed, attendance, etc. to Montreal.	\$ 49.00	\$ 42.25	\$ 40.55	\$ 39.85	\$ 38.20	\$ 29.55	\$ 295.55	\$ 295.55	\$ 295.55	\$ 295.55	\$ 295.55	\$ 295.55	\$ 59.24	\$ 59.24
Stock yard charges, Montreal.	\$ 14.99	\$ 14.90	\$ 14.90	\$ 14.90	\$ 14.90	\$ 14.90	\$ 15.54	\$ 15.54	\$ 15.54	\$ 15.54	\$ 15.54	\$ 15.54	\$ 115.25	\$ 115.25
Reloading to wharf.	\$ 1.00	\$ 1.00	\$ 1.00	\$ 1.00	\$ 1.00	\$ 1.00	\$ 1.00	\$ 1.00	\$ 1.00	\$ 1.00	\$ 1.00	\$ 1.00	\$ 1.00	\$ 1.00
Ocean feed.	\$ 85.69	\$ 88.20	\$ 83.20	\$ 83.20	\$ 83.20	\$ 80.00	\$ 85.69	\$ 85.69	\$ 85.69	\$ 85.69	\$ 85.69	\$ 85.69	\$ 89.38	\$ 89.38
Wharfage, insurance, handling, tagging, ropes, etc.	\$ 37.84	\$ 37.84	\$ 37.84	\$ 37.84	\$ 37.84	\$ 37.84	\$ 37.84	\$ 37.84	\$ 37.84	\$ 37.84	\$ 37.84	\$ 37.84	\$ 34.75	\$ 34.75
Canadian expenses.	\$ 188.52	\$ 179.19	\$ 177.49	\$ 176.79	\$ 174.83	\$ 174.83	\$ 435.62	\$ 435.62	\$ 435.62	\$ 435.62	\$ 435.62	\$ 435.62	\$ 199.62	\$ 199.62
Ocean freight at \$20 per head for Lots 1, 2 and 8, and \$18 per head for others.	£ 89-10-6	£ 89-19-0	£ 81-0-0	£ 81-0-0	£ 81-0-0	£ 81-0-0	£ 81-0-0	£ 81-0-0	£ 81-0-0	£ 81-0-0	£ 81-0-0	£ 81-0-0	£ 85-9-9	£ 85-9-9
Port and sale expenses.	£ 17-10-0	£ 17-10-0	£ 17-10-0	£ 17-10-0	£ 17-10-0	£ 17-10-0	£ 17-10-0	£ 17-10-0	£ 17-10-0	£ 17-10-0	£ 17-10-0	£ 17-10-0	£ 16-12-6	£ 16-12-6
Overseas expenses.														
Total.	£ 107-9-6	£ 107-9-0	£ 98-10-0	£ 103-8-6	£ 98-10-0	£ 103-8-6	£ 98-10-0	£ 98-10-0	£ 98-10-0	£ 98-10-0	£ 98-10-0	£ 98-10-0	£ 102-2-3	£ 102-2-3
Total returns.	£ 459.0-0	£ 410-0-0	£ 388-0-0	£ 339-0-0	£ 374-14-0	£ 430-0-0	£ 420-0-0	£ 420-0-0	£ 420-0-0	£ 420-0-0	£ 420-0-0	£ 420-0-0	£ 507-6-0	£ 507-6-0
Net overseas returns (less overseas expenses above).	£ 351-10-6	£ 302-11-0	£ 289-0-0	£ 240-10-0	£ 270-5-6	£ 331-10-0	£ 321-10-0	£ 321-10-0	£ 321-10-0	£ 321-10-0	£ 321-10-0	£ 321-10-0	£ 405-3-9	£ 405-3-9
At \$4.52 to the £.	£ 1,588.90	£ 1,367.53	£ 1,308.54	£ 1,087.06	£ 1,221.65	£ 1,498.38	£ 1,498.38	£ 1,498.38	£ 1,498.38	£ 1,498.38	£ 1,498.38	£ 1,498.38	£ 1,831.46	£ 1,831.46
Less Canadian expenses.														
Net return.	\$ 1,400.38	\$ 1,188.34	\$ 1,131.05	\$ 910.27	\$ 1,046.82	\$ 1,062.76	\$ 1,017.56	\$ 1,017.56	\$ 1,017.56	\$ 1,017.56	\$ 1,017.56	\$ 1,017.56	\$ 1,631.84	\$ 1,631.84
Average return per steer.	\$ 70.02	\$ 59.41	\$ 56.55	\$ 45.51	\$ 49.85	\$ 53.14	\$ 50.88	\$ 50.88	\$ 50.88	\$ 50.88	\$ 50.88	\$ 50.88	\$ 85.88	\$ 85.88
†Average price obtained per lb. at farm on basis Montreal real weights.	c. 5.83	c. 5.73	c. 5.68	c. 4.65	c. 5.60	c. 5.20	c. 4.97	c. 4.97	c. 4.97	c. 4.97	c. 4.97	c. 4.97	c. 6.78	c. 6.78
Maximum appraised values at Montreal.	c. 6.00	c. 5.75	c. 5.00	c. 5.00	c. 5.00	c. 6.00	c. 6.00	c. 6.00	c. 6.00	c. 6.00	c. 6.00	c. 6.00	c. 6.50	c. 6.50

\*Less freight on Ottawa lot on three animals, one sold in Montreal, 2 put in Lethbridge lot.

† Equal to sale at home with an allowance of 5 per cent shrink.

## SHIPMENT OF STORE CATTLE TO GREAT BRITAIN, APRIL, 1925

On April 8, 1925, per ss. *Manchester Importer*, there was shipped from Halifax to Manchester by the Dominion Experimental Farms, a consignment of 114 head of store cattle originating from five Dominion Experimental Farms, three in Western Canada and two in the Maritime Provinces, consigned to Messrs. Chapman and Everett, Fakenham, Norfolk, England. This shipment was not accompanied overseas by any representative of the Department of Agriculture, consequently the Department is indebted to Messrs. Chapman and Everett for much of the data here reported.

The shipment was experimental in nature and was a continuation of experimental work in that all cattle in the shipment had been utilized for feeding test work during the previous winter. In addition, one lot (Lethbridge) was a follow-up shipment on a similar lot shipped in October, 1924, to check relative profit of fall shipping as against holding, winter stall-feeding, then shipping in spring.

OBJECTS OF THIS SHIPMENT.—1. To determine relative cost of shipping from Montreal and Halifax.

2. To determine whether the extra cost of shipping via Halifax, if any, would be offset by a higher price in Great Britain, due to getting on the market earlier than would be possible after waiting for the port of Montreal to open.

3. To obtain further data on the cost of shipment, shrinkage in transit, and other phases of export cattle-shipping business.

PLAN OF EXPERIMENT.—The steers included in the shipment were those used in winter feeding experiments at the Lethbridge, Alberta; Scott, Sask.; Swift Current, Sask., Kentville, Nova Scotia Experimental Stations, and Nappan, Nova Scotia Experimental Farm. They were fairly representative of the cattle available for the overseas trade in the districts from which they came. At the same time, there was sufficient difference between the respective lots and between groups within lots to make some interesting comparisons. The following gives the source of the cattle and the grouping into lots for sale purposes.

Lot 1.—Thirty-four stores—16 stores, 2-year-olds, black, from Experimental Station, Lethbridge, Alberta. Short-keeps or choice butcher cattle.

18 stores, 2-year-olds, red, from Experimental Station, Lethbridge, Alberta. Long-keeps or choice feeder cattle.

Lot 2.—Twenty stores, 2-year-olds, red, from Experimental Station, Scott, Sask. Good butchers.

Lot 3.—Twenty stores, 2-year-olds, red, from Experimental Station, Swift Current, Sask. Handy-weight butcher cattle.

Lot 4.—Twenty stores, 2-year-olds, red, from Experimental Farm, Nappan, Nova Scotia. Fair butcher cattle.

Lot 5.—Twenty stores, 2-year-olds, red, from Experimental Station, Kentville, Nova Scotia. Medium to fair butcher cattle.

### COST OF SHIPPING TO HALIFAX

The cost of shipping cattle to Halifax varies according to the point from which the shipment originates. This information is given in table XXXII.

It will be seen that the cost of shipping to Halifax in this instance is approximately proportionate to the distance shipped. In the case of the animals from Lethbridge, Alberta, and Scott, Sask., the average charges are \$6.62 per head higher than on cattle shipped from the same points to Montreal in May, 1924. (See report of this shipment.)

## SHRINKAGE

Table XXXIII gives the shrinkage in rail and ocean shipping of the respective lots.

TABLE XXXII.—STATEMENT OF EXPENSES SHIPPING 114 HEAD OF CATTLE FROM EXPERIMENTAL STATIONS MENTIONED TO HALIFAX

Experimental Station	Lethbridge, Alta.	Scott, Sask.	Swift Current, Sask.	Nappan, N.S.	Kentville, N.S.
Number of steers..... No.	34	20	20	20	20
Freight and other rail charges to Halifax..... \$	757.20	364.90	404.66	73.24	84.65
Attendants' charges (pro rated)..... \$	34.00	20.00	20.00	3.00	5.00
Cost per head at Halifax..... \$	23.27	19.25	21.23	3.81	4.48

TABLE XXXIII.—STATEMENT OF SHRINKAGE IN CATTLE IN RAIL AND OCEAN SHIPPING

—	Lot 1 Lethbridge, Alta.	Lot 2 Scott, Sask.	Lot 3 Swift Cur- rent, Sask.	Lot 4 Nappan, N.S.	Lot 5 Kentville, N.S.
Average weight at feed lot..... lbs.	1,333.6	1,277.5	1,322.5	1,244.5	1,194.5
Average weight at Winnipeg..... "	1,235.6	1,225.0	1,257.5	.....	.....
Shrink to Winnipeg..... %	7.35	4.10	4.91	.....	.....
Average weight at Montreal..... lbs.	1,220.6	1,200.00	1,200.00	.....	.....
Shrink to Montreal..... %	8.47	6.07	9.26	.....	.....
Average weight at Manchester..... lbs.	1,209.6	1,159.2	1,198.4	1,160.6	1,122.8
Shrink to Manchester..... %	9.14	9.26	9.38	6.74	6.00

Unfortunately, it was impossible to get the weights of the cattle off cars and going on board ship at Halifax. Weights were obtained off ship at Manchester, however, making it possible to calculate the total shrinkage from feed lot to market in Great Britain. This, it will be noted, amounts to 9.29 per cent on the average for the western steers and 6.37 per cent on the average for the Maritime Province steers. In the case of the western cattle, this is 1.48 per cent higher than the average shrink on the western cattle in the May, 1924, shipment. In the case of the maritime cattle, it is 2.47 per cent higher than the shrink on the Lennoxville, Que., cattle in the May, 1924, shipment, in which Lennoxville cattle had practically the same length of rail haul as this year's maritime cattle.

The increase in percentage shrink in the western cattle this year is no doubt due in part to the lengthened freight haul, though it may be due in part to the quality of attendance on board ship, owing to the fact that no representative of the department was in charge. That the latter is probably the strongest factor in the case is borne out by the fact that the eastern steers shrank much more this year than last, though otherwise conditions were much the same. This points to the necessity of having a fully qualified man in charge of the shipment, as has been emphasized in other reports of shipments of this nature.

COST OF SHIPPING STORES TO GREAT BRITAIN (VIA HALIFAX)

In all, 114 head were shipped and the average cost of shipping these cattle to Great Britain from their respective starting points via Halifax is given in Table XXXIV.

## RETURNS FROM SHIPMENT

The cattle were split into five lots for sale in Great Britain. Table XXXV gives the results obtained.

TABLE XXXIV.—STATEMENT OF EXPENSES SHIPPING 114 STORE CATTLE TO ENGLAND VIA HALIFAX

Experimental Station	Lethbridge, Alberta	Scott, Sask.	Swift Current, Sask.	Nappan, N.S.	Kentville, N.S.
Number of steers.....	34	20	20	20	20
Total charges from station to Halifax. \$	791 20	384 90	424 66	76 24	89 65
Tags and tagging, 5c. each..... \$	1 70	1 00	1 00	1 00	1 00
Ropes, roping, and foreman's wages... \$	30 20	17 77	17 77	17 78	17 78
Handling and loading..... \$	23 80	14 00	14 00	14 00	14 00
Insurance at \$130 each—\$9,620 at 5/8% \$	27 63	16 25	16 25	16 25	16 25
Ocean feed..... \$	190 60	112 20	112 20	112 14	112 14
Cattlemen's supplies, board, etc..... \$	8 30	4 88	4 88	4 89	4 89
Excise stamps..... \$	0 40	0 23	0 23	0 18	0 16
Ocean freight..... \$	680 00	400 00	400 00	400 00	400 00
Total..... \$	1,753 83	951 23	990 99	642 48	655 87
Less demurrage (one day at Halifax). \$	17 00	10 00	10 00	10 00	10 00
Total cost to port of debarkation.... \$	1,736 83	941 23	980 99	632 48	645 87
Average per head to port of debarka- tion..... \$	51 08	47 06	49 05	31 62	32 29

TABLE XXXV.—RETURNS FROM SHIPMENT

—	Lot 1 Lethbridge, Alberta	Lot 2 Scott, Sask.	Lot 3 Swift Cur- rent, Sask.	Lot 4 Nappan, N.S.	Lot 5 Kentville, N.S.
Total charges to port of debarkation. \$	1,736 83	941 23	980 99	632 48	645 87
Overseas charges at 17/6 each at \$4.80 to the £..... \$	142 80	84 00	84 00	84 00	84 00
Total charges..... \$	1,879 63	1,025 23	1,064 99	716 48	729 87
Total return, exchange at \$4.80..... \$	4,845 60	2,779 20	2,884 80	2,659 20	2,719 20
Net return..... \$	2,965 97	1,753 97	1,819 81	1,942 72	1,989 33
Gross return per 100 pound at Man- chester..... \$	11 68	11 98	12 03	11 45	12 10
Net return per 100 pound at Man- chester..... \$	7 15	7 56	7 58	8 37	8 85
Net return per 100 pound at Farm or Station (3% shrink allowance)..... \$	6 75	7 07	7 09	8 05	8 58
Appraised value at Farm..... \$	6 25	6 25	6 75	6 35	6 25

## REMARKS REGARDING VARIOUS LOTS

*Lot 1*—Consisting of 34 steers, from Lethbridge, Alberta, was made up of 16 blacks and 18 reds, and was grouped in this way for sale. The 16 blacks were a very uniform group, showing breediness and good, even fleshing. They sold for an average of £30-9-9 each, nine of the best for grazing at £32 each and 7 smaller ones for slaughter at £28-10-0 each. The 18 reds were not so breedy or uniform a lot and were sold for slaughter at £29 each. Of these, Messrs. Chapman and Everett have the following to say: "A good well-bred black will always realize top price here for either keeping purposes or for slaughter. The reds were sold to a Manchester butcher to be killed, being just the size (average weight, Manchester, 1,209 pounds) and condition suitable for the Manchester requirements."

*Lot 2*—Consisting of 20 steers from Scott, Sask., very uniform, smooth and evenly fleshed. A few steers showing lack of depth, but well fleshed on the loin.

An attractive lot. These sold for an average of £28-19-0 for grazing purposes. Of these, Chapman & Everett stated: "An exceptionally good lot of short-keep cattle, full of quality, well bred, nicely selected, short-legged animals, and, when properly finished, are sure to command good prices here. They will not get coarse and heavy, but will make just nice weights suitable for either London or provincial markets."

*Lot 3—Twenty steers of Hereford breeding from Swift Current, Sask.,* was fairly uniform in size and colour, with considerable breed type, but showing a tendency to roughness. Loins generally fairly well fleshed, but some bare, pinched-in backs noticeable. These sold for an average of £30-1-0 each for grazing purposes. Chapman and Everett describe them as "handy-weight butcher cattle, having plenty of length, condition and quality, and will pay for two months' keep on early grasses."

*Lot 4—Consisting of 20 good eastern steers from Nappan, N.S.,* were very uniform in size, fleshing and colour, lacking in breediness compared with the previous lots with four lacking badly in beef type. They sold for an average of £27 14s. for slaughter. Of these, Chapman & Everett remark: "Very much on the plain side, leggy, some badly shaped ones amongst them, and not too well bred. This class makes, when finished off in this country, what we term carcassing animals, that is to say, suitable for wholesale trade purposes—the cheaper class meat."

*Lot 5—From Kentville, N.S.,* this lot of 20 steers was somewhat mixed, some being of Hereford breeding, while others showed traces of dairy blood. They, therefore, lacked uniformity of size and colour. They were, however, fairly well fleshed, and sold for an average of £28 6s. 6d. each for slaughter purposes. Comment by Chapman & Everett—"Just passable everyday cattle."

#### PROFIT AND LOSS STATEMENT

In table XXXVI will be found figures giving the actual profit over feed made on these cattle from time of purchase for feeding experimental work in the fall of 1924 until sold on the Manchester market, April 22, 1925. From this table it will be noted that all lots realized a fair profit, more than would have been obtained had they been sold on the respective local markets. Regarding relative profits, this is affected materially by the cost of feeding at the different Farms as well as by the quality of the cattle fed and length of rail shipment.

In the case of the western cattle, those from Scott, Sask., show the greatest profit through having considerably the lowest feed cost.

Those from Swift Current, Sask., though not of quite as good quality from a Canadian standpoint as those from Scott or Lethbridge, nevertheless brought the highest price per head of any lot, and the second highest profit per head of the western lots.

Those from Lethbridge, while good quality cattle that sold for the second highest price per head, returned the lowest profit of any of the western cattle, this being due to an unusually high feed cost.

In the case of the maritime cattle, which were of much poorer quality than the western cattle, practically equal profit is shown. This is due to the fact that they had a very low freight charge. Also being sold for immediate slaughter, they made a somewhat higher return per head than their quality would have warranted had they been sold for grazing purposes.

#### FALL VS. SUCCEEDING SPRING SHIPMENT OF SIMILAR CATTLE PURCHASED AT THE SAME TIME

In the latter part of September, 1924, there was purchased at Calgary, Alberta, eighty head of steers average weight 1,060 pounds at an average cost of \$44.31 per steer loaded on cars ready for shipment. Forty of these were

shipped overseas immediately for sale as stores, (reported on in the report of the October, 1924, shipment). The remaining forty were shipped to Lethbridge for experimental feeding purposes and to be shipped to Great Britain the following spring to determine whether it is more profitable to ship cattle of this class in the early fall or to hold them, winter stall feed them, and ship in the spring. Through one cause and another only thirty-four of the forty cattle held over were available for shipment in April, 1925.

Table XXXVII gives the results of this phase of the shipment. It will be noted that the actual profit per animal was \$7.69 in the case of those shipped in the fall of 1924 and \$4.90 in the case of those shipped in the spring of 1925. However, owing to the fact that there was considerable difference in the value of the pound sterling at the respective times of shipment, and also to the fact that there was an extra rail freight charge against the 1925 shipment owing to being routed via Halifax instead of Montreal, certain adjustments had to be made. These are noted in the table. As a result the fall shipment shows a profit of \$12.26 per steer, while the spring shipment shows a profit of \$11.52 per steer, or a difference of 74 cents per steer in favour of the fall shipment. It is to be noted that the cattle in the fall shipment when they reached Montreal averaged under 1,000 pounds per head, therefore, were shipped at the reduced ocean freight of \$18 per head i.e. \$2 less per head than the cattle in the April, 1925, shipment, so that they had every advantage it was possible to give them.

Manchester weights of the cattle in the fall shipment were not obtained, consequently it was taken for granted that they would shrink 9 per cent between Calgary and Manchester (a fair charge since the shrink on finished cattle in the April, 1925, shipment was only 9.29 per cent). On this basis the 1924 shipment realized \$10.57 per 100 pounds and the 1925 shipment \$11.68 per 100 pounds at Manchester, showing a spread in price of \$1.11 per 100 pounds live weight between fall and spring prices. This spread, however, was not sufficient to cover the cost of feeding over winter in this particular instance. It is to be noted, however, that the cost of feeding at Lethbridge during the winter of 1925 was unusually high. Had the cost of feed per steer been nearer the lower average cost prevailing at Scott or Swift Current, the Lethbridge steers in the 1925 shipment would have shown a profit sufficient to have made winter feeding and shipping in the spring more profitable than fall shipping of light stores. It would seem, therefore, that when an abundance of relatively cheap feed was available it would be profitable to hold steers for winter feeding and early spring shipment.

TABLE XXXVI.—PROFIT AND LOSS STATEMENT ON VARIOUS LOTS

—	Lethbridge, Alberta	Scott, Sask.	Swift Current, Sask.	Nappan, N.S.	Kentville, N.S.
Date of shipment.....	April, 1925	April, 1925	April, 1925	April, 1925	April, 1925
Number of steers..... No.	34	20	20	20	20
Cost of steers per head, fall, 1924..... \$	44 31	44 42	51 90	50 875	52 17
Total cost of steers, fall, 1924..... \$	1,506 78	888 40	1,038 04	1,017 50	1,043 43
Cost of feed per head to carry over. \$	38 02	24 78	28 81	31 49	34 47
Total cost of feed to carry steers over..... \$	1,292 68	495 60	576 28	629 85	689 44
Cost of transportation to and selling in Great Britain..... \$	1,879 63	1,025 23	1,064 99	716 48	729 87
Total cost..... \$	4,679 09	2,409 23	2,679 31	2,363 83	2,462 74
Total return..... \$	4,845 60	2,779 20	2,884 80	2,659 20	2,719 20
Total profit per lot..... \$	166 51	369 97	205 49	295 37	256 46
Total profit per steer..... \$	4 90	18 50	10 27	14 77	12 82

TABLE XXXVII.—PROFIT AND LOSS STATEMENT ON OCTOBER, 1924, VS. APRIL, 1925,  
SHIPMENT OF STEERS FROM LETHBRIDGE

	Oct., 1924	April, 1925
Date of shipment.....	40	34
Number of steers.....	\$ 1,772 68	1,506 78
Original cost of steers.....	\$ 1,761 68	1,292 68
Cost of feed to carry over winter.....	\$ 3,534 36	1,879 63
Cost of transportation to and selling charges in Great Britain.....	\$ 3,842 00	4,679 09
Total cost.....	\$ 3,807 64	4,845 60
Total return.....	\$ 7 69	166 51
Total profit per lot.....	\$ 7 69	4 90
Total profit per steer.....		
<i>Adjustments.</i>		
Rebate on freight due to extra haul to Halifax of \$6.62 per steer.....	\$ .....	225 08
Rebate on exchange, difference between £ at \$4.52 in October, 1924, and \$4.80 in April, 1925.....	\$ 182 84	391 59
Adjusted total profit.....	\$ 490 48	11 52
Adjusted total profit per steer.....	\$ 12 26	11 52
Gross return per steer at Manchester all figured at \$4.80 to £.....	\$ 102 00	142 50
Gross return per 100 lbs. at Manchester.....	\$ 10 57	11 68
Spread in price per 100 lbs. in favour of winter feeding and early spring shipment.....	\$ .....	1 11

## DEDUCTIONS

1. That the cost of shipping cattle from such western points as Lethbridge, Alberta, and Scott, Sask., to Great Britain via Montreal and Halifax shows a difference of \$6.62 per head in favour of shipment via Montreal, this extra charge being made up almost entirely of increased rail freight charges.

2. The advantage of getting the cattle on the British market earlier by shipping via Halifax, i.e., before the port of Montreal opened, has in this case at least more than offset the increased rail freight charges and made it possible for the April, 1925, shipment to realize a fair profit on all lots of steers, but particularly on the steers from the Maritime.

3. For the first time in this series of experimental shipments of store cattle it has been possible to show the total cost price per lot of animals delivered in Great Britain and thus show the profit to be derived from the business of raising or buying cattle, feeding them, and disposing of them on the British market. The profits shown should prove encouraging to the western breeder, feeder and shipper, and more than encouraging to the maritime breeder, feeder and shipper, particularly if the latter can improve the quality of the animals shipped. The advantage that the maritime feeder and shipper has in low rail freight charges and possibility of early shipment giving him an outlet for his animals at approximately  $1\frac{1}{2}$  cents per pound over local prices can hardly be overestimated.

TABLE XXXVIII.—SUMMARY OF LOTS 1-5 AND OCTOBER, 1924, LOTS

Farm	Lot No.	Class of Steers	Average Farm Weights	Average Manchester Weights	Average Selling Price Manchester per head	Gross Price per cwt. Manchester	Appraised Value at Farm	Net Price Secured at Farm	Net Profit per Steer
			£ s. d.	£ s. d.	£ s. d.	\$	cts.	\$	\$
Lethbridge, Alta. ....	1	16 short-keeps or choice butchers. .... 18 long-keeps or choice feeders. .... 20 good butchers. .... 20 handy-weight butcher cattle. ....	1,333.6 1,219.6 1,277.5 1,159.2	29-13-10 11-68 28-19-0 11-98	11-68 6-25 6-25 6-25	6-25	6-75	4-90	
Scott, Sask. ....	2								
Swift Current, Sask. ....	3								
Nappan, N.S. ....	4	20 fair Eastern butcher cattle. ....	1,322.5	1,198.4	30- 1-0	12-03	6-75	7-09	10-27
Kentville, N.S. ....	5	20 fair to medium Eastern butcher cattle. ....	1,244.5	1,160.5	27-14-0	11-45	6-35	8-05	14-77
Lethbridge, Alberta, Oct., 1924 shipment. ....	6 & 7	40 light typey 1924 stores ....	1,194.5 1,060.0	1,122.8 Allowing 9 per cent shrink 946.6	28- 6-6 21- 5-0	12-10 10-57	6-25 4-25	8-58 5-03	12-82 7-69

## APPENDIX

The British embargo against Canadian live cattle other than for immediate slaughter at port of landing was lifted by virtue of the Importation of Animals Act passed by the British Parliament in December, 1922. The provisions of this Act were put in force on April 1, 1923, by the Importation of Canadian Cattle Order of the Minister of Agriculture and Fisheries of Great Britain, dated March 9, 1923.

The following are some of the provisions of the Order that are of particular interest to the Canadian cattle shipper:—

### INTERPRETATION OF TERMS

1. In this Order, unless the context otherwise requires,—

“Canadian” in relation to any animal means born and reared in the Dominion of Canada;

“Canadian store cattle” means Canadian castrated male or spayed female bovine animals which are intended for feeding purposes and not for immediate slaughter;

“Disease” means cattle-plague (that is to say, rinderpest, or the disease commonly called cattle-plague), contagious pleuro-pneumonia of cattle, and foot-and-mouth disease;

“Imported” means brought to Great Britain from a country out of Great Britain;

“Imported Animals Wharf” means a part of a port defined by Special Order of the Minister for the landing of imported animals intended for slaughter at the port of landing;

“Landing-Place” means a part of a port approved by the Minister for the landing of Canadian cattle other than cattle intended for slaughter at the port of landing;

“Reception-lair” means a lair adjacent or near to the place of landing which is set apart for the reception of any animals immediately after landing for the purpose of their examination.

### APPLICATION OF ORDER

2. This Order shall not apply to Canadian cattle intended for slaughter at the port of landing and landed at an Imported Animals Wharf.

## PART I—LANDING REGULATIONS

### REGULATION OF LANDING OF CANADIAN STORE CATTLE IN GREAT BRITAIN

3. (1) Canadian store cattle brought to Great Britain shall be landed only at a port and at a Landing Place approved for that purpose by the Minister.
- (2) The cattle are to be landed in such manner, at such times and subject to such supervision, as the Commissioners of Customs and Excise may direct.
- (3) When landed the cattle shall be under such supervision and control of an Inspector as may be necessary for the purposes of this Order, and until the arrival of the Inspector be under the supervision and control of the Superintendent of the Landing Place.

## CERTIFICATES, ETC., TO BE FURNISHED ON IMPORTATION

4. Canadian store cattle shall not be landed unless and until there are delivered to a proper officer of Customs and Excise the certificates and declaration prescribed by this Article, namely:

- (1) A certificate signed by a duly authorized officer of the Dominion of Canada:—
  - (a) That the cattle have for a period of three clear days immediately before shipment been kept separate from other animals, and have been examined from time to time during that period by a duly authorized veterinary officer of the Dominion of Canada, and in particular have been thoroughly so examined immediately before shipment;
  - (b) that on such examination no animal examined was found to be affected with cattle-plague, pleuro-pneumonia or foot-and-mouth disease;
  - (c) that the cattle were not at the time of shipment affected with mange;
  - (d) that, if at any time within twenty-eight days before the shipment of the cattle the vessel in which the cattle are brought to Great Britain has had on board any animal which had been exported or carried coastwise from any port or place in any country other than Great Britain or the Dominion of Canada, or has entered or been within any such port or place, the vessel was before the shipment of the cattle effectively cleansed and disinfected to the satisfaction of the duly authorized representative of the Government of the Dominion of Canada;
  - (e) that the cattle were before shipment marked in the manner prescribed by the Minister; and
  - (f) that the cattle are Canadian store cattle as defined in this Order.
- (2) A declaration signed by the master of the vessel that the cattle were shipped from a port in the Dominion of Canada and that the vessel has not during the voyage entered any port or place outside Great Britain; and
- (3) A certificate signed by a duly authorized veterinary officer of the Dominion of Canada that the cattle have been during the voyage kept separate from other animals and daily examined by him, and that on such examination no animal examined was found to be affected with cattle-plague, pleuro-pneumonia or foot-and-mouth disease, and also stating whether any cattle died, or were killed or injured on the vessel during the voyage, and, if so, the cause of such death, slaughter or injury.



## PUBLICATIONS ON BEEF CATTLE

The following publications of the Department of Agriculture relating to beef cattle are available on application to the Publications Branch, Department of Agriculture, Ottawa:—

Anthrax	.....	Bul. 23, H. of A.B.
Anthrax and Black Leg	.....	Bul. 13, H. of A.B.
Beef Cattle, The Feeding of	.....	Ex. Cir. 63.
Bran, Shorts, Middlings, and Feed Flour	.....	Bul. 2, N.S.
Dehorn Your Commercial Cattle	.....	Pamp. 15, N.S.
Feeding Stuffs, Commercial	.....	Bul. 47, S.S., E.F.
Feeding Stuffs, Purchasing of	.....	Ex. Cir. 88.
Feeds for Wintering and Winter-Fattening of Beef Cattle in Eastern Canada	.....	Ex. Cir. 106.
Feeds for the Winter-Feeding of Beef Cattle in Northwest Saskatchewan, Growing	.....	Ex. Cir. 107.
Goitre (in New Born Lambs, Calves and other Animals, Hairyless Pigs) How to prevent	.....	Cir. 3, N.S.
Live Stock, Feeding of	.....	Ex. Cir. 33.
Live Stock, The Safe Handling of Commercial	.....	Leaflet L.S.B.
Steers in Western N.S., The Winter-Finishing of	.....	Pamp. 20, N.S.
Steers for Market in N.W. Sask., Finishing	.....	Pamp. 17, N.S.
Steer-Feeding Experiments in Prince Edward Island	.....	Pamp. 23, N.S.
Steer-Feeding on the Prairies	.....	Cir. 26, N.S.
Winter-Feeding of Beef Cattle in Ontario, The	.....	Pamp. 21, N.S.

A full list of the publications relating to animal husbandry may be obtained by writing for the **List of Publications**.

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